

At page 2, delete lines 26 through 29 and insert--

Figures 1A and 1B contain the amino acid sequence of *H. pylori* polypeptide HPP1 (1A) (SEQ ID NO:384) and the nucleic acid sequence HPP1B (1B) (SEQ ID NO:1) which encodes HPP1;

Figure 2A contains the amino acid sequence of *H. pylori* polypeptide HPP2 (2A) (SEQ ID NO:385);

Figure 3A contains the amino acid sequence of *H. pylori* polypeptide HPP3 (3A);

Figure 4A contains the amino acid sequence of *H. pylori* polypeptide HPP4 (4A);

Figures 5A and 2B contain the amino acid sequence of *H. pylori* polypeptide HPP5 (5A) (SEQ ID NO:386) and the nucleic acid sequence HPP5B (2B) (SEQ ID NO:2) which encodes HPP5;

Figures 6A and 3B contain the amino acid sequence of *H. pylori* polypeptide HPP6 (6A) (SEQ ID NO:387) and the nucleic acid sequence HPP6B (3B) (SEQ ID NO:3) which encodes HPP6;

Figures 7A and 4B contain the amino acid sequence of *H. pylori* polypeptide HPP7 (7A) (SEQ ID NO:388) and the nucleic acid sequence HPP7B (4B) (SEQ ID NO:4) which encodes HPP7;

Figures 8A and 5B contain the amino acid sequence of *H. pylori* polypeptide HPP8 (8A) (SEQ ID NO:389) and the nucleic acid sequence HPP8B (5B) (SEQ ID NO:5) which encodes HPP8;

Figure 9A contains the amino acid sequence of *H. pylori* polypeptide HPP9 (9A) (SEQ ID NO:390);

Figures 10A and 6B contain the amino acid sequence of *H. pylori* polypeptide HPP10 (10A) (SEQ ID NO:391) and the nucleic acid sequence HPP10B (6B) (SEQ ID NO:6) which encodes HPP10;

Figures 11A and 7B contain the amino acid sequence of *H. pylori* polypeptide HPP11 (11A) (SEQ ID NO:392) and the nucleic acid sequence HPP11B (7B) (SEQ ID NO:7) which encodes HPP11;

Figures 12A and 8B contain the amino acid sequence of *H. pylori* polypeptide HPP12 (12A) (SEQ ID NO:393) and the nucleic acid sequence HPP12B (8B) (SEQ ID NO:8) which encodes HPP12;

Figures 13A and 9B contain the amino acid sequence of *H. pylori* polypeptide HPP13 (13A) (SEQ ID NO:394) and the nucleic acid sequence HPP13B (9B) (SEQ ID NO:9) which encodes HPP13;

Figures 14A and 10B contain the amino acid sequence of *H. pylori* polypeptide HPP14 (14A) (SEQ ID NO:395) and the nucleic acid sequence HPP14B (10B) (SEQ ID NO:10) which encodes HPP14;

Figures 15A and 11B contain the amino acid sequence of *H. pylori* polypeptide HPP15 (15A) (SEQ ID NO:396) and the nucleic acid sequence HPP15B (11B) (SEQ ID NO:11) which encodes HPP15;

Figures 16A and 12B contain the amino acid sequence of *H. pylori* polypeptide HPP16 (16A) (SEQ ID NO:397) and the nucleic acid sequence HPP16B (12B) (SEQ ID NO:12) which encodes HPP16;

Figures 17A and 13B contain the amino acid sequence of *H. pylori* polypeptide HPP17 (17A) (SEQ ID NO:398) and the nucleic acid sequence HPP17B (13B) (SEQ ID NO:13) which encodes HPP17;

Figures 18A and 14B contain the amino acid sequence of *H. pylori* polypeptide HPP18 (18A) (SEQ ID NO:399) and the nucleic acid sequence HPP18B (14B) (SEQ ID NO:14) which encodes HPP18;

Figures 19A and 15B contain the amino acid sequence of *H. pylori* polypeptide HPP19 (19A) (SEQ ID NO:400) and the nucleic acid sequence HPP19B (15B) (SEQ ID NO:15) which encodes HPP19;

Figure 20A contains the amino acid sequence of *H. pylori* polypeptide HPP20 (20A) (SEQ ID NO:401);

Figures 21A and 16B contain the amino acid sequence of *H. pylori* polypeptide HPP21 (21A) (SEQ ID NO:402) and the nucleic acid sequence HPP21B (16B) (SEQ ID NO:16) which encodes HPP21;

Figures 22A and 17B contain the amino acid sequence of *H. pylori* polypeptide HPP22 (22A) (SEQ ID NO:403) and the nucleic acid sequence HPP22B (17B) (SEQ ID NO:17) which encodes HPP22;

Figures 23A and 18B contain the amino acid sequence of *H. pylori* polypeptide HPP23 (23A) (SEQ ID NO:404) and the nucleic acid sequence HPP23B (18B) (SEQ ID NO:18) which encodes HPP23;

Figures 24A and 19B contain the amino acid sequence of *H. pylori* polypeptide HPP24 (24A) (SEQ ID NO:405) and the nucleic acid sequence HPP24B (19B) (SEQ ID NO:19) which encodes HPP24;

Figures 25A and 20B contain the amino acid sequence of *H. pylori* polypeptide HPP25 (25A) (SEQ ID NO:406) and the nucleic acid sequence HPP25B (20B) (SEQ ID NO:20) which encodes HPP25;

Figure 26A contains the amino acid sequence of *H. pylori* polypeptide HPP26 (26A) (SEQ ID NO:407);

Figures 27A and 21B contain the amino acid sequence of *H. pylori* polypeptide HPP27 (27A) (SEQ ID NO:408) and the nucleic acid sequence HPP30B (21B) (SEQ ID NO:21) which encodes HPP27;

Figure 28A contains the amino acid sequence of *H. pylori* polypeptide HPP28 (28A) (SEQ ID NO:409);

Figure 29A contains the amino acid sequence of *H. pylori* polypeptide HPP29 (29A) (SEQ ID NO:410);

Figures 30A and 22B contain the amino acid sequence of *H. pylori* polypeptide HPP30 (30A) (SEQ ID NO:411) and the nucleic acid sequence HPP30B (22B) (SEQ ID NO:22) which encodes HPP30;

Figures 31A and 23B contain the amino acid sequence of *H. pylori* polypeptide HPP31 (31A) (SEQ ID NO:412) and the nucleic acid sequence HPP31B (23B) (SEQ ID NO:23) which encodes HPP31;

Figure 32A contains the amino acid sequence of *H. pylori* polypeptide HPP32 (32A);

Figure 33A contains the amino acid sequence of *H. pylori* polypeptide HPP33 (33A);

Figure 34A contains the amino acid sequence of *H. pylori* polypeptide HPP34 (34A) (SEQ ID NO:413);

Figure 35A contains the amino acid sequence of *H. pylori* polypeptide HPP35 (35A);

Figures 36A and 24B contain the amino acid sequence of *H. pylori* polypeptide HPP36 (36A) (SEQ ID NO:414) and the nucleic acid sequence HPP36B (24B) (SEQ ID NO:24) which encodes HPP36;

Figures 37A and 25B contain the amino acid sequence of *H. pylori* polypeptide HPP37 (37A) (SEQ ID NO:415) and the nucleic acid sequence HPP37B (25B) (SEQ ID NO:25) which encodes HPP37;

Figures 38A and 26B contain the amino acid sequence of *H. pylori* polypeptide HPP38 (38A) (SEQ ID NO:416) and the nucleic acid sequence HPP38B (26B) (SEQ ID NO:26) which encodes HPP38;

Figures 39A and 27B contain the amino acid sequence of *H. pylori* polypeptide HPP39 (39A) (SEQ ID NO:417) and the nucleic acid sequence HPP39B (27B) (SEQ ID NO:27) which encodes HPP39;

Figures 40A and 28B contain the amino acid sequence of *H. pylori* polypeptide HPP40 (40A) (SEQ ID NO:418) and the nucleic acid sequence HPP40B (28B) (SEQ ID NO:28) which encodes HPP40;

Figure 41A contains the amino acid sequence of *H. pylori* polypeptide HPP41 (41A);

Figures 42A and 29B contain the amino acid sequence of *H. pylori* polypeptide HPP42 (42A) (SEQ ID NO:419) and the nucleic acid sequence HPP42B (29B) (SEQ ID NO:29) which encodes HPP42;

Figures 43A and 30B contain the amino acid sequence of *H. pylori* polypeptide HPP43 (43A) (SEQ ID NO:420) and the nucleic acid sequence HPP43B (30B) (SEQ ID NO:30) which encodes HPP43;

Figures 44A and 31B contain the amino acid sequence of *H. pylori* polypeptide HPP44 (44A) (SEQ ID NO:421) and the nucleic acid sequence HPP44B (31B) (SEQ ID NO:31) which encodes HPP44;

Figures 45A and 32B contain the amino acid sequence of *H. pylori* polypeptide HPP45 (45A) (SEQ ID NO:422) and the nucleic acid sequence HPP45B (32B) (SEQ ID NO:32) which encodes HPP45;

Figure 46A contains the amino acid sequence of *H. pylori* polypeptide HPP46 (46A);

Figures 47A and 33B contain the amino acid sequence of *H. pylori* polypeptide HPP47 (47A) (SEQ ID NO:423) and the nucleic acid sequence HPP47B (33B) (SEQ ID NO:33) which encodes HPP47;

Figures 48A and 34B contain the amino acid sequence of *H. pylori* polypeptide HPP48 (48A) (SEQ ID NO:424) and the nucleic acid sequence HPP48B (34B) (SEQ ID NO:34) which encodes HPP48;

Figures 49A and 35B contain the amino acid sequence of *H. pylori* polypeptide HPP49 (49A) (SEQ ID NO:425) and the nucleic acid sequence HPP49B (35B) (SEQ ID NO:35) which encodes HPP49;

Figures 50A and 36B contain the amino acid sequence of *H. pylori* polypeptide HPP50 (50A) (SEQ ID NO:426) and the nucleic acid sequence HPP50B (36B) (SEQ ID NO:36) which encodes HPP50;

Figures 51A and 37B contain the amino acid sequence of *H. pylori* polypeptide HPP51 (51A) (SEQ ID NO:427) and the nucleic acid sequence HPP51B (37B) (SEQ ID NO:37) which encodes HPP51;

Figures 52A and 38B contain the amino acid sequence of *H. pylori* polypeptide HPP52 (52A) (SEQ ID NO:428) and the nucleic acid sequence HPP52B (38B) (SEQ ID NO:38) which encodes HPP52;

Figures 53A and 39B contain the amino acid sequence of *H. pylori* polypeptide HPP53 (53A) (SEQ ID NO:429) and the nucleic acid sequence HPP53B (39B) (SEQ ID NO:39) which encodes HPP53;

Figures 54A and 40B contain the amino acid sequence of *H. pylori* polypeptide HPP54 (54A) (SEQ ID NO:430) and the nucleic acid sequence HPP54B (40B) (SEQ ID NO:40) which encodes HPP54;

Figure 55A contains the amino acid sequence of *H. pylori* polypeptide HPP55 (55A) (SEQ ID NO:431);

Figures 56A and 41B contain the amino acid sequence of *H. pylori* polypeptide HPP56 (56A) (SEQ ID NO:432) and the nucleic acid sequence HPP56B (41B) (SEQ ID NO:41) which encodes HPP56;

Figures 57A and 42B contain the amino acid sequence of *H. pylori* polypeptide HPP57 (57A) (SEQ ID NO:433) and the nucleic acid sequence HPP57B (42B) (SEQ ID NO:42) which encodes HPP57;

Figure 58A contains the amino acid sequence of *H. pylori* polypeptide HPP58 (58A);

Figures 59A and 43B contain the amino acid sequence of *H. pylori* polypeptide HPP59 (59A) (SEQ ID NO:434) and the nucleic acid sequence HPP59B (43B) (SEQ ID NO:43) which encodes HPP59;

Figure 60A contains the amino acid sequence of *H. pylori* polypeptide HPP60 (60A) (SEQ ID NO:435);

Figures 61A and 44B contain the amino acid sequence of *H. pylori* polypeptide HPP61 (61A) (SEQ ID NO:436) and the nucleic acid sequence HPP61B (44B) (SEQ ID NO:44) which encodes HPP61;

Figures 62A and 45B contain the amino acid sequence of *H. pylori* polypeptide HPP62 (62A) (SEQ ID NO:437) and the nucleic acid sequence HPP62B (45B) (SEQ ID NO:45) which encodes HPP62;

Figures 63A and 46B contain the amino acid sequence of *H. pylori* polypeptide HPP63 (63A) (SEQ ID NO:438) and the nucleic acid sequence HPP63B (46B) (SEQ ID NO:46) which encodes HPP63;

Figures 64A and 47B contain the amino acid sequence of *H. pylori* polypeptide HPP64 (64A) (SEQ ID NO:439) and the nucleic acid sequence HPP64B (47B) (SEQ ID NO:47) which encodes HPP64;

Figures 65A and 48B contain the amino acid sequence of *H. pylori* polypeptide HPP65 (65A) (SEQ ID NO:440) and the nucleic acid sequence HPP65B (48B) (SEQ ID NO:48) which encodes HPP65;

Figure 66A contains the amino acid sequence of *H. pylori* polypeptide HPP66 (66A);

Figures 67A and 49B contain the amino acid sequence of *H. pylori* polypeptide HPP67 (67A) (SEQ ID NO:441) and the nucleic acid sequence HPP67B (49B) (SEQ ID NO:49) which encodes HPP67;

Figure 68A contains the amino acid sequence of *H. pylori* polypeptide HPP68 (68A) (SEQ ID NO:442);

Figures 69A and 50B contain the amino acid sequence of *H. pylori* polypeptide HPP69 (69A) (SEQ ID NO:443) and the nucleic acid sequence HPP69B (50B) (SEQ ID NO:50) which encodes HPP69;

Figures 70A and 51B contain the amino acid sequence of *H. pylori* polypeptide HPP70 (70A) (SEQ ID NO:444) and the nucleic acid sequence HPP70B (51B) (SEQ ID NO:51) which encodes HPP70.

Figure 71A contains the amino acid sequence of *H. pylori* polypeptide HPP71 (71A) (SEQ ID NO:445);

Figures 72A and 52B contain the amino acid sequence of *H. pylori* polypeptide HPP72 (72A) (SEQ ID NO:446) and the nucleic acid sequence HPP72B (52B) (SEQ ID NO:52) which encodes HPP72;

Figures 73A and 53B contain the amino acid sequence of *H. pylori* polypeptide HPP73 (73A) (SEQ ID NO:447) and the nucleic acid sequence HPP73B (53B) (SEQ ID NO:53) which encodes HPP73;

Figures 74A and 54B contain the amino acid sequence of *H. pylori* polypeptide HPP74 (74A) (SEQ ID NO:448) and the nucleic acid sequence HPP74B (54B) (SEQ ID NO:54) which encodes HPP74;

Figure 75A contains the amino acid sequence of *H. pylori* polypeptide HPP75 (75A) (SEQ ID NO:449);

Figures 76A and 55B contain the amino acid sequence of *H. pylori* polypeptide HPP76 (76A) (SEQ ID NO:450) and the nucleic acid sequence HPP76B (55B) (SEQ ID NO:55) which encodes HPP76;

Figures 77A and 56B contain the amino acid sequence of *H. pylori* polypeptide HPP77 (77A) (SEQ ID NO:451) and the nucleic acid sequence HPP77B (56B) (SEQ ID NO:56) which encodes HPP77;

Figures 78A and 57B contain the amino acid sequence of *H. pylori* polypeptide HPP78 (78A) (SEQ ID NO:452) and the nucleic acid sequence HPP78B (57B) (SEQ ID NO:57) which encodes HPP78;

Figures 79A and 58B contain the amino acid sequence of *H. pylori* polypeptide HPP79 (79A) (SEQ ID NO:453) and the nucleic acid sequence HPP79B (58B) (SEQ ID NO:58) which encodes HPP79;

Figures 80A and 59B contain the amino acid sequence of *H. pylori* polypeptide HPP80 (80A) (SEQ ID NO:454) and the nucleic acid sequence HPP80B (59B) (SEQ ID NO:59) which encodes HPP80;

Figures 81A and 60B contain the amino acid sequence of *H. pylori* polypeptide HPP81 (81A) (SEQ ID NO:455) and the nucleic acid sequence HPP81B (60B) (SEQ ID NO:60) which encodes HPP81;

Figures 82A and 61B contain the amino acid sequence of *H. pylori* polypeptide HPP82 (82A) (SEQ ID NO:456) and the nucleic acid sequence HPP82B (61B) (SEQ ID NO:61) which encodes HPP82;

Figures 83A and 62B contain the amino acid sequence of *H. pylori* polypeptide HPP83 (83A) (SEQ ID NO:457) and the nucleic acid sequence HPP83B (62B) (SEQ ID NO:62) which encodes HPP83;

Figures 84A and 63B contain the amino acid sequence of *H. pylori* polypeptide HPP84 (84A) (SEQ ID NO:458) and the nucleic acid sequence HPP84B (63B) (SEQ ID NO:63) which encodes HPP84;

Figures 85A and 64B contain the amino acid sequence of *H. pylori* polypeptide HPP85 (85A) (SEQ ID NO:459) and the nucleic acid sequence HPP85B (64B) (SEQ ID NO:64) which encodes HPP85;

Figures 86A and 65B contain the amino acid sequence of *H. pylori* polypeptide HPP86 (86A) (SEQ ID NO:460) and the nucleic acid sequence HPP86B (65B) (SEQ ID NO:65) which encodes HPP86;

Figures 87A and 66B contain the amino acid sequence of *H. pylori* polypeptide HPP87 (87A) (SEQ ID NO:461) and the nucleic acid sequence HPP87B (66B) (SEQ ID NO:66) which encodes HPP87;

Figures 88A and 67B contain the amino acid sequence of *H. pylori* polypeptide HPP88 (88A) (SEQ ID NO:462) and the nucleic acid sequence HPP88B (67B) (SEQ ID NO:67) which encodes HPP88;

Figure 89A contains the amino acid sequence of *H. pylori* polypeptide HPP89 (89A) (SEQ ID NO:463);

Figure 90A contains the amino acid sequence of *H. pylori* polypeptide HPP90 (90A) (SEQ ID NO:464);

Figures 91A and 68B contain the amino acid sequence of *H. pylori* polypeptide HPP91 (91A) (SEQ ID NO:465) and the nucleic acid sequence HPP91B (68B) (SEQ ID NO:68) which encodes HPP91;

Figures 92A and 69B contain the amino acid sequence of *H. pylori* polypeptide HPP92 (92A) (SEQ ID NO:466) and the nucleic acid sequence HPP92B (69B) (SEQ ID NO:69) which encodes HPP92;

Figure 93A contains the amino acid sequence of *H. pylori* polypeptide HPP93 (93A);

Figure 94A contains the amino acid sequence of *H. pylori* polypeptide HPP94 (94A) (SEQ ID NO:467);

Figures 95A and 70B contain the amino acid sequence of *H. pylori* polypeptide HPP95 (95A) (SEQ ID NO:468) and the nucleic acid sequence HPP95B (70B) (SEQ ID NO:70) which encodes HPP95;

Figures 96A and 71B contain the amino acid sequence of *H. pylori* polypeptide HPP96 (96A) (SEQ ID NO:469) and the nucleic acid sequence HPP96B (71B) (SEQ ID NO:71) which encodes HPP96;

Figure 97A contains the amino acid sequence of *H. pylori* polypeptide HPP97 (97A) (SEQ ID NO:470);

Figures 98A and 72B contain the amino acid sequence of *H. pylori* polypeptide HPP98 (98A) (SEQ ID NO:471) and the nucleic acid sequence HPP98B (72B) (SEQ ID NO:72) which encodes HPP98;

Figures 99A and 73B contain the amino acid sequence of *H. pylori* polypeptide HPP99 (99A) (SEQ ID NO:472) and the nucleic acid sequence HPP99B (73B) (SEQ ID NO:73) which encodes HPP99;

Figures 100A and 74B contain the amino acid sequence of *H. pylori* polypeptide HPP100 (100A) (SEQ ID NO:473) and the nucleic acid sequence HPP100B (74B) (SEQ ID NO:74) which encodes HPP100;

Figure 101A contains the amino acid sequence of *H. pylori* polypeptide HPP101 (101A) (SEQ ID NO:474);

Figures 102A and 75B contain the amino acid sequence of *H. pylori* polypeptide HPP102 (102A) (SEQ ID NO:475) and the nucleic acid sequence HPP102B (75B) (SEQ ID NO:75) which encodes HPP102;

Figure 103A contains the amino acid sequence of *H. pylori* polypeptide HPP103 (103A) (SEQ ID NO:476);

Figure 104A contains the amino acid sequence of *H. pylori* polypeptide HPP104 (104A) (SEQ ID NO:477);

Figures 105A and 76B contain the amino acid sequence of *H. pylori* polypeptide HPP105 (105A) (SEQ ID NO:478) and the nucleic acid sequence HPP105B (76B) (SEQ ID NO:76) which encodes HPP105;

Figures 106A and 77B contain the amino acid sequence of *H. pylori* polypeptide HPP106 (106A) (SEQ ID NO:479) and the nucleic acid sequence HPP106B (77B) (SEQ ID NO:77) which encodes HPP106;

Figure 107A contains the amino acid sequence of *H. pylori* polypeptide HPP107 (107A) (SEQ ID NO:480);

Figures 108A and 78B contain the amino acid sequence of *H. pylori* polypeptide HPP108 (108A) (SEQ ID NO:481) and the nucleic acid sequence HPP108B (78B) (SEQ ID NO:78) which encodes HPP108;

Figures 109A and 79B contain the amino acid sequence of *H. pylori* polypeptide HPP109 (109A) (SEQ ID NO:482) and the nucleic acid sequence HPP109B (79B) (SEQ ID NO:79) which encodes HPP109;

Figure 110A contains the amino acid sequence of *H. pylori* polypeptide HPP110 (110A);

Figure 111A contains the amino acid sequence of *H. pylori* polypeptide HPP111 (111A);

Figures 112A and 80B contain the amino acid sequence of *H. pylori* polypeptide HPP112 (112A) (SEQ ID NO:483) and the nucleic acid sequence HPP112B (80B) (SEQ ID NO:80) which encodes HPP112;

Figures 113A and 81B contain the amino acid sequence of *H. pylori* polypeptide HPP113 (113A) (SEQ ID NO:484) and the nucleic acid sequence HPP113B (81B) (SEQ ID NO:81) which encodes HPP113;

Figure 114A contains the amino acid sequence of *H. pylori* polypeptide HPP114 (114A) (SEQ ID NO:485);

Figures 115A and 82B contain the amino acid sequence of *H. pylori* polypeptide HPP115 (115A) (SEQ ID NO:486) and the nucleic acid sequence HPP115B (82B) (SEQ ID NO:82) which encodes HPP115;

Figure 116A contains the amino acid sequence of *H. pylori* polypeptide HPP116 (116A) (SEQ ID NO:487);

Figures 117A and 83B contain the amino acid sequence of *H. pylori* polypeptide HPP117 (117A) (SEQ ID NO:488) and the nucleic acid sequence HPP117B (83B) (SEQ ID NO:83) which encodes HPP117;

Figures 118A and 84B contain the amino acid sequence of *H. pylori* polypeptide HPP118 (118A) (SEQ ID NO:489) and the nucleic acid sequence HPP118B (84B) (SEQ ID NO:84) which encodes HPP118;

Figures 119A and 85B contain the amino acid sequence of *H. pylori* polypeptide HPP119 (119A) (SEQ ID NO:490) and the nucleic acid sequence HPP119B (85B) (SEQ ID NO:85) which encodes HPP119;

Figures 120A and 86B contain the amino acid sequence of *H. pylori* polypeptide HPP120 (120A) (SEQ ID NO:491) and the nucleic acid sequence HPP120B (86B) (SEQ ID NO:86) which encodes HPP120;

Figures 121A and 87B contain the amino acid sequence of *H. pylori* polypeptide HPP121 (121A) (SEQ ID NO:492) and the nucleic acid sequence HPP121B (87B) (SEQ ID NO:87) which encodes HPP121;

Figures 122A and 88B contain the amino acid sequence of *H. pylori* polypeptide HPP122 (122A) (SEQ ID NO:493) and the nucleic acid sequence HPP122B (88B) (SEQ ID NO:88) which encodes HPP122;

Figure 123A contains the amino acid sequence of *H. pylori* polypeptide HPP123 (123A);

Figure 124A contains the amino acid sequence of *H. pylori* polypeptide HPP124 (124A);

Figures 125A and 89B contain the amino acid sequence of *H. pylori* polypeptide HPP125 (125A) (SEQ ID NO:494) and the nucleic acid sequence HPP125B (89B) (SEQ ID NO:89) which encodes HPP125;

Figures 126A and 90B contain the amino acid sequence of *H. pylori* polypeptide HPP126 (126A) (SEQ ID NO:495) and the nucleic acid sequence HPP126B (90B) (SEQ ID NO:90) which encodes HPP126;

Figures 127A and 91B contain the amino acid sequence of *H. pylori* polypeptide HPP127 (127A) (SEQ ID NO:496) and the nucleic acid sequence HPP127B (91B) (SEQ ID NO:91) which encodes HPP127;

Figures 128A and 92B contain the amino acid sequence of *H. pylori* polypeptide HPP128 (128A) (SEQ ID NO:497) and the nucleic acid sequence HPP128B (92B) (SEQ ID NO:92) which encodes HPP128;

Figures 129A and 93B contain the amino acid sequence of *H. pylori* polypeptide HPP129 (129A) (SEQ ID NO:498) and the nucleic acid sequence HPP129B (93B) (SEQ ID NO:93) which encodes HPP129;

Figures 130A and 94B contain the amino acid sequence of *H. pylori* polypeptide HPP130 (130A) (SEQ ID NO:499) and the nucleic acid sequence HPP130B (94B) (SEQ ID NO:94) which encodes HPP130;

Figures 131A and 95B contain the amino acid sequence of *H. pylori* polypeptide HPP131 (131A) (SEQ ID NO:500) and the nucleic acid sequence HPP131B (95B) (SEQ ID NO:95) which encodes HPP131;

Figures 132A and 96B contain the amino acid sequence of *H. pylori* polypeptide HPP132 (132A) (SEQ ID NO:501) and the nucleic acid sequence HPP132B (96B) (SEQ ID NO:96) which encodes HPP132;

Figure 133A contains the amino acid sequence of *H. pylori* polypeptide HPP133 (133A) (SEQ ID NO:502);

Figures 134A and 97B contains the amino acid sequence of *H. pylori* polypeptide HPP134 (134A) (SEQ ID NO:503) and the nucleic acid sequence HPP134B (97B) (SEQ ID NO:97) which encodes HPP134;

Figures 135A and 98B contain the amino acid sequence of *H. pylori* polypeptide HPP135 (135A) (SEQ ID NO:504) and the nucleic acid sequence HPP135B (98B) (SEQ ID NO:98) which encodes HPP135;

Figure 136A contains the amino acid sequence of *H. pylori* polypeptide HPP136 (136A);

Figures 137A and 99B contain the amino acid sequence of *H. pylori* polypeptide HPP137 (137A) (SEQ ID NO:505) and the nucleic acid sequence HPP137B (99B) (SEQ ID NO:99) which encodes HPP137;

Figures 138A and 100B contain the amino acid sequence of *H. pylori* polypeptide HPP138 (138A) (SEQ ID NO:506) and the nucleic acid sequence HPP138B (100B) (SEQ ID NO:100) which encodes HPP138;

Figure 139A contains the amino acid sequence of *H. pylori* polypeptide HPP139 (139A) (SEQ ID NO:507);

Figure 140A contains the amino acid sequence of *H. pylori* polypeptide HPP140 (140A) (SEQ ID NO:508);

Figure 141A contains the amino acid sequence of *H. pylori* polypeptide HPP141 (141A);

Figures 142A and 101B contain the amino acid sequence of *H. pylori* polypeptide HPP142 (142A) (SEQ ID NO:509) and the nucleic acid sequence HPP142B (101B) (SEQ ID NO:101) which encodes HPP142;

Figures 143A and 102B contain the amino acid sequence of *H. pylori* polypeptide HPP143 (143A) (SEQ ID NO:510) and the nucleic acid sequence HPP143B (102B) (SEQ ID NO:102) which encodes HPP143;

Figure 144A contains the amino acid sequence of *H. pylori* polypeptide HPP144 (144A) (SEQ ID NO:511);

Figures 145A and 103B contain the amino acid sequence of *H. pylori* polypeptide HPP145 (145A) (SEQ ID NO:512) and the nucleic acid sequence HPP145B (103B) (SEQ ID NO:103) which encodes HPP145;

Figures 146A and 104B contain the amino acid sequence of *H. pylori* polypeptide HPP146 (146A) (SEQ ID NO:513) and the nucleic acid sequence HPP146B (104B) (SEQ ID NO:104) which encodes HPP146;

Figures 147A and 105B contain the amino acid sequence of *H. pylori* polypeptide HPP147 (147A) (SEQ ID NO:514) and the nucleic acid sequence HPP147B (105B) (SEQ ID NO:105) which encodes HPP147;

Figure 148A contains the amino acid sequence of *H. pylori* polypeptide HPP148 (148A) (SEQ ID NO:515);

Figures 149A and 106B contain the amino acid sequence of *H. pylori* polypeptide HPP149 (149A) (SEQ ID NO:516) and the nucleic acid sequence HPP149B (106B) (SEQ ID NO:106) which encodes HPP149;

Figure 150A contains the amino acid sequence of *H. pylori* polypeptide HPP150 (150A) (SEQ ID NO:517);

Figures 151A and 107B contain the amino acid sequence of *H. pylori* polypeptide HPP151 (151A) (SEQ ID NO:518) and the nucleic acid sequence HPP151B (107B) (SEQ ID NO:107) which encodes HPP151;

Figures 152A and 108B contain the amino acid sequence of *H. pylori* polypeptide HPP152 (152A) (SEQ ID NO:519) and the nucleic acid sequence HPP152B (108B) (SEQ ID NO:108) which encodes HPP152;

Figures 153A and 109B contain the amino acid sequence of *H. pylori* polypeptide HPP153 (153A) (SEQ ID NO:520) and the nucleic acid sequence HPP153B (109B) (SEQ ID NO:109) which encodes HPP153A;

Figure 154A contains the amino acid sequence of *H. pylori* polypeptide HPP154 (154A) (SEQ ID NO:521);

Figures 155A and 110B contain the amino acid sequence of *H. pylori* polypeptide HPP155 (155A) (SEQ ID NO:522) and the nucleic acid sequence HPP155B (110B) (SEQ ID NO:110) which encodes HPP155;

Figure 156A contains the amino acid sequence of *H. pylori* polypeptide HPP156 (156A);

Figure 157A contains the amino acid sequence of *H. pylori* polypeptide HPP157 (157A);

Figures 158A and 111B contain the amino acid sequence of *H. pylori* polypeptide HPP158 (158A) (SEQ ID NO:523) and the nucleic acid sequence HPP158B (111B) (SEQ ID NO:111) which encodes HPP158;

Figures 159A and 112B contain the amino acid sequence of *H. pylori* polypeptide HPP159 (159A) (SEQ ID NO:524) and the nucleic acid sequence HPP159B (112B) (SEQ ID NO:112) which encodes HPP159;

Figures 160A and 113B contain the amino acid sequence of *H. pylori* polypeptide HPP160 (160A) (SEQ ID NO:525) and the nucleic acid sequence HPP160B (113B) (SEQ ID NO:113) which encodes HPP160;

Figure 161A contains the amino acid sequence of *H. pylori* polypeptide HPP161 (161A) (SEQ ID NO:526);

Figures 162A and 114B contain the amino acid sequence of *H. pylori* polypeptide HPP162 (162A) (SEQ ID NO:527) and the nucleic acid sequence HPP162B (114B) (SEQ ID NO:114) which encodes HPP162;

Figures 163A and 115B contain the amino acid sequence of *H. pylori* polypeptide HPP163 (163A) (SEQ ID NO:528) and the nucleic acid sequence HPP163B (115B) (SEQ ID NO:115) which encodes HPP163;

Figures 164A and 116B contain the amino acid sequence of *H. pylori* polypeptide HPP164 (164A) (SEQ ID NO:529) and the nucleic acid sequence HPP164B (116B) (SEQ ID NO:116) which encodes HPP164;

Figures 165A and 117B contain the amino acid sequence of *H. pylori* polypeptide HPP165 (165A) (SEQ ID NO:530) and the nucleic acid sequence HPP165B (117B) (SEQ ID NO:117) which encodes HPP165;

Figures 166A and 118B contain the amino acid sequence of *H. pylori* polypeptide HPP166 (166A) (SEQ ID NO:531) and the nucleic acid sequence HPP166B (118B) (SEQ ID NO:118) which encodes HPP166;

Figures 167A and 119B contain the amino acid sequence of *H. pylori* polypeptide HPP167 (167A) (SEQ ID NO:532) and the nucleic acid sequence HPP167B (119B) (SEQ ID NO:119) which encodes HPP167;

Figure 168A contains the amino acid sequence of *H. pylori* polypeptide HPP168 (168A);

Figures 169A and 120B contain the amino acid sequence of *H. pylori* polypeptide HPP169 (169A) (SEQ ID NO:533) and the nucleic acid sequence HPP169B (120B) (SEQ ID NO:120) which encodes HPP169;

Figure 170A contains the amino acid sequence of *H. pylori* polypeptide HPP170 (170A) (SEQ ID NO:534);

Figures 171A and 121B contain the amino acid sequence of *H. pylori* polypeptide HPP171 (171A) (SEQ ID NO:535) and the nucleic acid sequence HPP171B (121B) (SEQ ID NO:121) which encodes HPP171;

Figures 172A and 122B contain the amino acid sequence of *H. pylori* polypeptide HPP172 (172A) (SEQ ID NO:536) and the nucleic acid sequence HPP172B (122B) (SEQ ID NO:122) which encodes HPP172;

Figure 173A contains the amino acid sequence of *H. pylori* polypeptide HPP173 (173A);

Figures 174A and 123B contain the amino acid sequence of *H. pylori* polypeptide HPP174 (174A) (SEQ ID NO:537) and the nucleic acid sequence HPP174B (123B) (SEQ ID NO:123) which encodes HPP174;

Figure 175A contains the amino acid sequence of *H. pylori* polypeptide HPP175 (175A) (SEQ ID NO:538);

Figures 176A and 124B contain the amino acid sequence of *H. pylori* polypeptide HPP176 (176A) (SEQ ID NO:539) and the nucleic acid sequence HPP176B (124B) (SEQ ID NO:124) which encodes HPP176;

Figures 177A and 125B contain the amino acid sequence of *H. pylori* polypeptide HPP177 (177A) (SEQ ID NO:540) and the nucleic acid sequence HPP177B (125B) (SEQ ID NO:125) which encodes HPP177;

Figure 178A contains the amino acid sequence of *H. pylori* polypeptide HPP178 (178A) (SEQ ID NO:541);

Figures 179A and 126B contain the amino acid sequence of *H. pylori* polypeptide HPP179 (179A) (SEQ ID NO:542) and the nucleic acid sequence HPP179B (126B) (SEQ ID NO:126) which encodes HPP179;

Figures 180A and 127B contain the amino acid sequence of *H. pylori* polypeptide HPP180 (180A) (SEQ ID NO:543) and the nucleic acid sequence HPP180B (127B) (SEQ ID NO:127) which encodes HPP180;

Figures 181A and 128B contain the amino acid sequence of *H. pylori* polypeptide HPP181 (181A) (SEQ ID NO:544) and the nucleic acid sequence HPP181B (128B) (SEQ ID NO:128) which encodes HPP181;

Figure 182A contains the amino acid sequence of *H. pylori* polypeptide HPP182 (182A);

Figure 183A contains the amino acid sequence of *H. pylori* polypeptide HPP183 (183A) (SEQ ID NO:545);

Figures 184A and 129B contain the amino acid sequence of *H. pylori* polypeptide HPP184 (184A) (SEQ ID NO:546) and the nucleic acid sequence HPP184B (129B) (SEQ ID NO:129) which encodes HPP184;

Figures 185A and 130B contain the amino acid sequence of *H. pylori* polypeptide HPP185 (185A) (SEQ ID NO:547) and the nucleic acid sequence HPP185B (130B) (SEQ ID NO:130) which encodes HPP185;

Figures 186A and 131B contain the amino acid sequence of *H. pylori* polypeptide HPP186 (186A) (SEQ ID NO:548) and the nucleic acid sequence HPP186B (131B) (SEQ ID NO:131) which encodes HPP186;

Figure 187A contains the amino acid sequence of *H. pylori* polypeptide HPP187 (187A) (SEQ ID NO:549);

Figures 188A and 132B contain the amino acid sequence of *H. pylori* polypeptide HPP188 (188A) (SEQ ID NO:550) and the nucleic acid sequence HPP188B (132B) (SEQ ID NO:132) which encodes HPP188;

Figure 189A contains the amino acid sequence of *H. pylori* polypeptide HPP189 (189A) (SEQ ID NO:551);

Figure 190A contains the amino acid sequence of *H. pylori* polypeptide HPP190 (190A) (SEQ ID NO:552);

Figures 191A and 133B contain the amino acid sequence of *H. pylori* polypeptide HPP191 (191A) (SEQ ID NO:553) and the nucleic acid sequence HPP191B (133B) (SEQ ID NO:133) which encodes HPP191;

Figures 192A and 134B contain the amino acid sequence of *H. pylori* polypeptide HPP192 (192A) (SEQ ID NO:554) and the nucleic acid sequence HPP192B (134B) (SEQ ID NO:134) which encodes HPP192;

Figures 193A and 135B contain the amino acid sequence of *H. pylori* polypeptide HPP193 (193A) (SEQ ID NO:555) and the nucleic acid sequence HPP193B (135B) (SEQ ID NO:135) which encodes HPP193;

Figures 194A and 136B contain the amino acid sequence of *H. pylori* polypeptide HPP194 (194A) (SEQ ID NO:556) and the nucleic acid sequence HPP194B (136B) (SEQ ID NO:136) which encodes HPP194;

Figure 195A contains the amino acid sequence of *H. pylori* polypeptide HPP195 (195A) (SEQ ID NO:557);

Figures 196A and 137B contain the amino acid sequence of *H. pylori* polypeptide HPP196 (196A) (SEQ ID NO:558) and the nucleic acid sequence HPP196B (137B) (SEQ ID NO:137) which encodes HPP196;

Figure 197A contains the amino acid sequence of *H. pylori* polypeptide HPP197 (197A) (SEQ ID NO:559);

Figures 198A and 138B contain the amino acid sequence of *H. pylori* polypeptide HPP198 (198A) (SEQ ID NO:560) and the nucleic acid sequence HPP198B (138B) (SEQ ID NO:138) which encodes HPP198;

Figure 199A contains the amino acid sequence of *H. pylori* polypeptide HPP199 (199A) (SEQ ID NO:561);

Figures 200A and 139B contain the amino acid sequence of *H. pylori* polypeptide HPP200 (200A) (SEQ ID NO:562) and the nucleic acid sequence HPP200B (139B) (SEQ ID NO:139) which encodes HPP200;

Figures 201A and 140B contain the amino acid sequence of *H. pylori* polypeptide HPP201 (201A) (SEQ ID NO:563) and the nucleic acid sequence HPP201B (140B) (SEQ ID NO:140) which encodes HPP201;

Figures 202A and 141B contain the amino acid sequence of *H. pylori* polypeptide HPP202 (202A) (SEQ ID NO:564) and the nucleic acid sequence HPP202B (141B) (SEQ ID NO:141) which encodes HPP202;

Figures 203A and 142B contain the amino acid sequence of *H. pylori* polypeptide HPP203 (203A) (SEQ ID NO:565) and the nucleic acid sequence HPP203B (142B) (SEQ ID NO:142) which encodes HPP203;

Figure 204A contains the amino acid sequence of *H. pylori* polypeptide HPP204 (204A);

Figures 205A and 143B contain the amino acid sequence of *H. pylori* polypeptide HPP205 (205A) (SEQ ID NO:566) and the nucleic acid sequence HPP205B (143B) (SEQ ID NO:143) which encodes HPP205;

Figure 206A contains the amino acid sequence of *H. pylori* polypeptide HPP206 (206A);

Figures 207A and 144B contain the amino acid sequence of *H. pylori* polypeptide HPP207 (207A) (SEQ ID NO:567) and the nucleic acid sequence HPP207B (144B) (SEQ ID NO:144) which encodes HPP207;

Figures 208A and 145B contain the amino acid sequence of *H. pylori* polypeptide HPP208 (208A) (SEQ ID NO:568) and the nucleic acid sequence HPP208B (145B) (SEQ ID NO:145) which encodes HPP208;

Figure 209A contains the amino acid sequence of *H. pylori* polypeptide HPP209 (209A) (SEQ ID NO:569);

Figures 210A and 146B contain the amino acid sequence of *H. pylori* polypeptide HPP210 (210A) (SEQ ID NO:570) and the nucleic acid sequence HPP210B (146B) (SEQ ID NO:146) which encodes HPP210;

Figure 211A contains the amino acid sequence of *H. pylori* polypeptide HPP211 (211A) (SEQ ID NO:571);

Figures 212A and 147B contain the amino acid sequence of *H. pylori* polypeptide HPP212 (212A) (SEQ ID NO:572) and the nucleic acid sequence HPP212B (147B) (SEQ ID NO:147) which encodes HPP212;

Figures 213A and 148B contain the amino acid sequence of *H. pylori* polypeptide HPP213 (213A) (SEQ ID NO:573) and the nucleic acid sequence HPP213B (148B) (SEQ ID NO:148) which encodes HPP213;

Figures 214A and 149B contain the amino acid sequence of *H. pylori* polypeptide HPP214 (214A) (SEQ ID NO:574) and the nucleic acid sequence HPP214B (149B) (SEQ ID NO:149) which encodes HPP214;

Figures 215A and 150B contain the amino acid sequence of *H. pylori* polypeptide HPP215 (215A) (SEQ ID NO:575) and the nucleic acid sequence HPP215B (150B) (SEQ ID NO:150) which encodes HPP215;

Figures 216A and 151B contain the amino acid sequence of *H. pylori* polypeptide HPP216 (216A) (SEQ ID NO:576) and the nucleic acid sequence HPP216B (151B) (SEQ ID NO:151) which encodes HPP216;

Figures 217A and 152B contain the amino acid sequence of *H. pylori* polypeptide HPP217 (217A) (SEQ ID NO:577) and the nucleic acid sequence HPP217B (152B) (SEQ ID NO:152) which encodes HPP217;

Figures 218A and 153B contain the amino acid sequence of *H. pylori* polypeptide HPP218 (218A) (SEQ ID NO:578) and the nucleic acid sequence HPP218B (153B) (SEQ ID NO:153) which encodes HPP218;

Figures 219A and 154B contain the amino acid sequence of *H. pylori* polypeptide HPP219 (219A) (SEQ ID NO:579) and the nucleic acid sequence HPP219B (154B) (SEQ ID NO:154) which encodes HPP219;

Figure 220A contains the amino acid sequence of *H. pylori* polypeptide HPP220 (220A) (SEQ ID NO:580);

Figures 221A and 155B contain the amino acid sequence of *H. pylori* polypeptide HPP221 (221A) (SEQ ID NO:581) and the nucleic acid sequence HPP221B (155B) (SEQ ID NO:155) which encodes HPP221;

Figures 222A and 156B contain the amino acid sequence of *H. pylori* polypeptide HPP222 (222A) (SEQ ID NO:582) and the nucleic acid sequence HPP222B (156B) (SEQ ID NO:156) which encodes HPP222;

Figures 223A and 157B contain the amino acid sequence of *H. pylori* polypeptide HPP223 (223A) (SEQ ID NO:583) and the nucleic acid sequence HPP223B (157B) (SEQ ID NO:157) which encodes HPP223;

Figure 224A contains the amino acid sequence of *H. pylori* polypeptide HPP224 (224A) (SEQ ID NO:584);

Figures 225A and 158B contain the amino acid sequence of *H. pylori* polypeptide HPP225 (225A) (SEQ ID NO:585) and the nucleic acid sequence HPP225B (158B) (SEQ ID NO:158) which encodes HPP225;

Figures 226A and 159B contain the amino acid sequence of *H. pylori* polypeptide HPP226 (226A) (SEQ ID NO:586) and the nucleic acid sequence HPP226B (159B) (SEQ ID NO:159) which encodes HPP226;

Figures 227A and 160B contain the amino acid sequence of *H. pylori* polypeptide HPP227 (227A) (SEQ ID NO:587) and the nucleic acid sequence HPP227B (160B) (SEQ ID NO:160) which encodes HPP227;

Figures 228A and 161B contain the amino acid sequence of *H. pylori* polypeptide HPP228 (228A) (SEQ ID NO:588) and the nucleic acid sequence HPP228B (161B) (SEQ ID NO:161) which encodes HPP228;

Figures 229A and 162B contain the amino acid sequence of *H. pylori* polypeptide HPP229 (229A) (SEQ ID NO:589) and the nucleic acid sequence HPP229B (162B) (SEQ ID NO:162) which encodes HPP229;

Figures 230A and 163B contain the amino acid sequence of *H. pylori* polypeptide HPP230 (230A) (SEQ ID NO:590) and the nucleic acid sequence HPP230B (163B) (SEQ ID NO:163) which encodes HPP230;

Figures 231A and 164B contain the amino acid sequence of *H. pylori* polypeptide HPP231 (231A) (SEQ ID NO:591) and the nucleic acid sequence HPP231B (164B) (SEQ ID NO:164) which encodes HPP231;

Figures 232A and 165B contain the amino acid sequence of *H. pylori* polypeptide HPP232 (232A) (SEQ ID NO:592) and the nucleic acid sequence HPP232B (165B) (SEQ ID NO:165) which encodes HPP232;

Figures 233A and 166B contain the amino acid sequence of *H. pylori* polypeptide HPP233 (233A) (SEQ ID NO:593) and the nucleic acid sequence HPP233B (166B) (SEQ ID NO:166) which encodes HPP233;

Figure 234A contains the amino acid sequence of *H. pylori* polypeptide HPP234 (234A) (SEQ ID NO:594);

Figure 235A contains the amino acid sequence of *H. pylori* polypeptide HPP235 (235A) (SEQ ID NO:595);

Figures 236A and 167B contain the amino acid sequence of *H. pylori* polypeptide HPP236 (236A) (SEQ ID NO:596) and the nucleic acid sequence HPP236B (167B) (SEQ ID NO:167) which encodes HPP236;

Figures 237A and 168B contain the amino acid sequence of *H. pylori* polypeptide HPP237 (237A) (SEQ ID NO:597) and the nucleic acid sequence HPP237B (168B) (SEQ ID NO:168) which encodes HPP237;

Figures 238A and 169B contain the amino acid sequence of *H. pylori* polypeptide HPP238 (238A) (SEQ ID NO:598) and the nucleic acid sequence HPP238B (169B) (SEQ ID NO:169) which encodes HPP238;

Figures 239A and 170B contain the amino acid sequence of *H. pylori* polypeptide HPP239 (239A) (SEQ ID NO:599) and the nucleic acid sequence HPP239B (170B) (SEQ ID NO:170) which encodes HPP239;

Figures 240A and 171B contain the amino acid sequence of *H. pylori* polypeptide HPP240 (240A) (SEQ ID NO:600) and the nucleic acid sequence HPP240B (171B) (SEQ ID NO:171) which encodes HPP240;

Figures 241A and 172B contain the amino acid sequence of *H. pylori* polypeptide HPP241 (241A) (SEQ ID NO:601) and the nucleic acid sequence HPP241B (172B) (SEQ ID NO:172) which encodes HPP241;

Figures 242A and 173B contain the amino acid sequence of *H. pylori* polypeptide HPP242 (242A) (SEQ ID NO:602) and the nucleic acid sequence HPP242B (173B) (SEQ ID NO:173) which encodes HPP242;

Figure 243A contains the amino acid sequence of *H. pylori* polypeptide HPP243 (243A);

Figures 244A and 174B contain the amino acid sequence of *H. pylori* polypeptide HPP244 (244A) (SEQ ID NO:603) and the nucleic acid sequence HPP244B (174B) (SEQ ID NO:174) which encodes HPP244;

Figures 245A and 175B contain the amino acid sequence of *H. pylori* polypeptide HPP245 (245A) (SEQ ID NO:604) and the nucleic acid sequence HPP245B (175B) (SEQ ID NO:175) which encodes HPP245;

Figures 246A and 176B contain the amino acid sequence of *H. pylori* polypeptide HPP246 (246A) (SEQ ID NO:605) and the nucleic acid sequence HPP246B (176B) (SEQ ID NO:176) which encodes HPP246;

Figures 247A and 177B contain the amino acid sequence of *H. pylori* polypeptide HPP247 (247A) (SEQ ID NO:606) and the nucleic acid sequence HPP247B (177B) (SEQ ID NO:177) which encodes HPP247;

Figures 248A and 178B contain the amino acid sequence of *H. pylori* polypeptide HPP248 (248A) (SEQ ID NO:607) and the nucleic acid sequence HPP248B (178B) (SEQ ID NO:178) which encodes HPP248;

Figures 249A and 179B contain the amino acid sequence of *H. pylori* polypeptide HPP249 (249A) (SEQ ID NO:608) and the nucleic acid sequence HPP249B (179B) (SEQ ID NO:179) which encodes HPP249;

Figures 250A and 180B contain the amino acid sequence of *H. pylori* polypeptide HPP250 (250A) (SEQ ID NO:609) and the nucleic acid sequence HPP250B (180B) (SEQ ID NO:180) which encodes HPP250;

Figures 251A and 181B contain the amino acid sequence of *H. pylori* polypeptide HPP251 (251A) (SEQ ID NO:610) and the nucleic acid sequence HPP251B (181B) (SEQ ID NO:181) which encodes HPP251;

Figures 252A and 182B contain the amino acid sequence of *H. pylori* polypeptide HPP252 (252A) (SEQ ID NO:611) and the nucleic acid sequence HPP252B (182B) (SEQ ID NO:182) which encodes HPP252;

Figures 253A and 183B contain the amino acid sequence of *H. pylori* polypeptide HPP253 (253A) (SEQ ID NO:612) and the nucleic acid sequence HPP253B (183B) (SEQ ID NO:183) which encodes HPP253;

Figures 254A and 184B contain the amino acid sequence of *H. pylori* polypeptide HPP254 (254A) (SEQ ID NO:613) and the nucleic acid sequence HPP254B (184B) (SEQ ID NO:184) which encodes HPP254;

Figures 255A and 185B contain the amino acid sequence of *H. pylori* polypeptide HPP255 (255A) (SEQ ID NO:614) and the nucleic acid sequence HPP255B (185B) (SEQ ID NO:185) which encodes HPP255;

Figure 256A contains the amino acid sequence of *H. pylori* polypeptide HPP256 (256A) (SEQ ID NO:615);

Figure 257A contains the amino acid sequence of *H. pylori* polypeptide HPP257 (257A) (SEQ ID NO:616);

Figures 258A and 186B contain the amino acid sequence of *H. pylori* polypeptide HPP258 (258A) (SEQ ID NO:617) and the nucleic acid sequence HPP258B (186B) (SEQ ID NO:186) which encodes HPP258;

Figures 259A and 187B contain the amino acid sequence of *H. pylori* polypeptide HPP259 (259A) (SEQ ID NO:618) and the nucleic acid sequence HPP259B (187B) (SEQ ID NO:187) which encodes HPP259;

Figures 260A and 188B contain the amino acid sequence of *H. pylori* polypeptide HPP260 (260A) (SEQ ID NO:619) and the nucleic acid sequence HPP260B (188B) (SEQ ID NO:188) which encodes HPP260;

Figures 261A and 189B contain the amino acid sequence of *H. pylori* polypeptide HPP261 (261A) (SEQ ID NO:620) and the nucleic acid sequence HPP261B (189B) (SEQ ID NO:189) which encodes HPP261;

Figures 262A and 190B contain the amino acid sequence of *H. pylori* polypeptide HPP262 (262A) (SEQ ID NO:621) and the nucleic acid sequence HPP262B (190B) (SEQ ID NO:190) which encodes HPP262;

Figures 263A and 191B contain the amino acid sequence of *H. pylori* polypeptide HPP263 (263A) (SEQ ID NO:622) and the nucleic acid sequence HPP263B (191B) (SEQ ID NO:191) which encodes HPP263;

Figures 264A and 192B contain the amino acid sequence of *H. pylori* polypeptide HPP264 (264A) (SEQ ID NO:623) and the nucleic acid sequence HPP264B (192B) (SEQ ID NO:192) which encodes HPP264;

Figure 265A contains the amino acid sequence of *H. pylori* polypeptide HPP265 (265A) (SEQ ID NO:624);

Figures 266A and 193B contain the amino acid sequence of *H. pylori* polypeptide HPP266 (266A) (SEQ ID NO:625) and the nucleic acid sequence HPP266B (193B) (SEQ ID NO:193) which encodes HPP266;

Figure 267A contains the amino acid sequence of *H. pylori* polypeptide HPP267 (267A) (SEQ ID NO:626);

Figures 268A and 194B contain the amino acid sequence of *H. pylori* polypeptide HPP268 (268A) (SEQ ID NO:627) and the nucleic acid sequence HPP268B (194B) (SEQ ID NO:194) which encodes HPP268;

Figure 269A contains the amino acid sequence of *H. pylori* polypeptide HPP269 (269A) (SEQ ID NO:628);

Figures 270A and 195B contain the amino acid sequence of *H. pylori* polypeptide HPP270 (270A) (SEQ ID NO:629) and the nucleic acid sequence HPP270B (195B) (SEQ ID NO:195) which encodes HPP270;

Figures 271A and 196B contain the amino acid sequence of *H. pylori* polypeptide HPP271 (271A) (SEQ ID NO:630) and the nucleic acid sequence HPP271B (196B) (SEQ ID NO:196) which encodes HPP271;

Figures 272A and 197B contain the amino acid sequence of *H. pylori* polypeptide HPP272 (272A) (SEQ ID NO:631) and the nucleic acid sequence HPP272B (197B) (SEQ ID NO:197) which encodes HPP272;

Figure 273A contains the amino acid sequence of *H. pylori* polypeptide HPP273 (273A) (SEQ ID NO:632);

Figures 274A and 198B contain the amino acid sequence of *H. pylori* polypeptide HPP274 (274A) (SEQ ID NO:633) and the nucleic acid sequence HPP274B (198B) (SEQ ID NO:198) which encodes HPP274;

Figure 275A contains the amino acid sequence of *H. pylori* polypeptide HPP275 (275A) (SEQ ID NO:634);

Figures 276A and 199B contain the amino acid sequence of *H. pylori* polypeptide HPP276 (276A) (SEQ ID NO:635) and the nucleic acid sequence HPP276B (199B) (SEQ ID NO:199) which encodes HPP276;

Figures 277A and 200B contain the amino acid sequence of *H. pylori* polypeptide HPP277 (277A) (SEQ ID NO:636) and the nucleic acid sequence HPP277B (200B) (SEQ ID NO:200) which encodes HPP277;

Figure 278A contains the amino acid sequence of *H. pylori* polypeptide HPP278 (278A);

Figure 279A contains the amino acid sequence of *H. pylori* polypeptide HPP279 (279A) (SEQ ID NO:637);

Figures 280A and 201B contain the amino acid sequence of *H. pylori* polypeptide HPP280 (280A) (SEQ ID NO:638) and the nucleic acid sequence HPP280B (201B) (SEQ ID NO:201) which encodes HPP280;

Figures 281A and 202B contain the amino acid sequence of *H. pylori* polypeptide HPP281 (281A) (SEQ ID NO:639) and the nucleic acid sequence HPP281B (202B) (SEQ ID NO:202) which encodes HPP281;

Figures 282A and 203B contain the amino acid sequence of *H. pylori* polypeptide HPP282 (282A) (SEQ ID NO:640) and the nucleic acid sequence HPP282B (203B) (SEQ ID NO:203) which encodes HPP282;

Figure 283A contains the amino acid sequence of *H. pylori* polypeptide HPP283 (283A) (SEQ ID NO:641);

Figures 284A and 204B contain the amino acid sequence of *H. pylori* polypeptide HPP284 (284A) (SEQ ID NO:642) and the nucleic acid sequence HPP284B (204B) (SEQ ID NO:204) which encodes HPP284;

Figure 285A contains the amino acid sequence of *H. pylori* polypeptide HPP285 (285A);

Figures 286A and 205B contain the amino acid sequence of *H. pylori* polypeptide HPP286 (286A) (SEQ ID NO:643) and the nucleic acid sequence HPP286B (205B) (SEQ ID NO:205) which encodes HPP286;

Figure 287A contains the amino acid sequence of *H. pylori* polypeptide HPP287 (287A) (SEQ ID NO:644);

Figure 288A contains the amino acid sequence of *H. pylori* polypeptide HPP288 (288A) (SEQ ID NO:645);

Figure 289A contains the amino acid sequence of *H. pylori* polypeptide HPP289 (289A) (SEQ ID NO:646);

Figures 290A and 206B contain the amino acid sequence of *H. pylori* polypeptide HPP290 (290A) (SEQ ID NO:647) and the nucleic acid sequence HPP290B (206B) (SEQ ID NO:206) which encodes HPP290;

Figure 291A contains the amino acid sequence of *H. pylori* polypeptide HPP291 (291A) (SEQ ID NO:648);

Figures 292A and 207B contain the amino acid sequence of *H. pylori* polypeptide HPP292 (292A) (SEQ ID NO:649) and the nucleic acid sequence HPP292B (207B) (SEQ ID NO:207) which encodes HPP292;

Figures 293A and 208B contain the amino acid sequence of *H. pylori* polypeptide HPP293 (293A) (SEQ ID NO:650) and the nucleic acid sequence HPP293B (208B) (SEQ ID NO:208) which encodes HPP293;

Figure 294A contains the amino acid sequence of *H. pylori* polypeptide HPP294 (294A);

Figures 295A and 209B contain the amino acid sequence of *H. pylori* polypeptide HPP295 (295A) (SEQ ID NO:651) and the nucleic acid sequence HPP295B (209B) (SEQ ID NO:209) which encodes HPP295;

Figure 296A contains the amino acid sequence of *H. pylori* polypeptide HPP296 (296A) (SEQ ID NO:652);

Figures 297A and 210B contain the amino acid sequence of *H. pylori* polypeptide HPP297 (297A) (SEQ ID NO:653) and the nucleic acid sequence HPP297B (210B) (SEQ ID NO:210) which encodes HPP297;

Figures 298A and 211B contain the amino acid sequence of *H. pylori* polypeptide HPP298 (298A) (SEQ ID NO:654) and the nucleic acid sequence HPP298B (211B) (SEQ ID NO:211) which encodes HPP298;

Figures 299A and 212B contain the amino acid sequence of *H. pylori* polypeptide HPP299 (299A) (SEQ ID NO:655) and the nucleic acid sequence HPP299B (212B) (SEQ ID NO:212) which encodes HPP299;

Figures 300A and 213B contain the amino acid sequence of *H. pylori* polypeptide HPP300 (300A) (SEQ ID NO:656) and the nucleic acid sequence HPP300B (213B) (SEQ ID NO:213) which encodes HPP300;

Figure 301A contains the amino acid sequence of *H. pylori* polypeptide HPP301 (301A);

Figures 302A and 214B contain the amino acid sequence of *H. pylori* polypeptide HPP302 (302A) (SEQ ID NO:657) and the nucleic acid sequence HPP302B (214B) (SEQ ID NO:214) which encodes HPP302;

Figures 303A and 215B contain the amino acid sequence of *H. pylori* polypeptide HPP303 (303A) (SEQ ID NO:658) and the nucleic acid sequence HPP303B (215B) (SEQ ID NO:215) which encodes HPP303;

Figures 304A and 216B contain the amino acid sequence of *H. pylori* polypeptide HPP304 (304A) (SEQ ID NO:659) and the nucleic acid sequence HPP304B (216B) (SEQ ID NO:216) which encodes HPP304;

Figures 305A and 217B contain the amino acid sequence of *H. pylori* polypeptide HPP305 (305A) (SEQ ID NO:660) and the nucleic acid sequence HPP305B (217B) (SEQ ID NO:217) which encodes HPP305;

Figures 306A and 218B contain the amino acid sequence of *H. pylori* polypeptide HPP306 (306A) (SEQ ID NO:661) and the nucleic acid sequence HPP306B (218B) (SEQ ID NO:218) which encodes HPP306;

Figure 307A contains the amino acid sequence of *H. pylori* polypeptide HPP307 (307A) (SEQ ID NO:662);

Figures 308A and 219B contain the amino acid sequence of *H. pylori* polypeptide HPP308 (308A) (SEQ ID NO:663) and the nucleic acid sequence HPP308B (219B) (SEQ ID NO:219) which encodes HPP308;

Figures 309A and 220B contain the amino acid sequence of *H. pylori* polypeptide HPP309 (309A) (SEQ ID NO:664) and the nucleic acid sequence HPP309B (220B) (SEQ ID NO:220) which encodes HPP309;.

Figures 310A and 221B contain the amino acid sequence of *H. pylori* polypeptide HPP310 (310A) (SEQ ID NO:665) and the nucleic acid sequence HPP310B (221B) (SEQ ID NO:221) which encodes HPP310;

Figures 311A and 222B contain the amino acid sequence of *H. pylori* polypeptide HPP311 (311A) (SEQ ID NO:666) and the nucleic acid sequence HPP311B (222B) (SEQ ID NO:222) which encodes HPP311;

Figures 312A and 223B contain the amino acid sequence of *H. pylori* polypeptide HPP312 (312A) (SEQ ID NO:667) and the nucleic acid sequence HPP312B (223B) (SEQ ID NO:223) which encodes HPP312;

Figures 313A and 224B contain the amino acid sequence of *H. pylori* polypeptide HPP313 (313A) (SEQ ID NO:668) and the nucleic acid sequence HPP313B (224B) (SEQ ID NO:224) which encodes HPP313;

Figures 314A and 225B contain the amino acid sequence of *H. pylori* polypeptide HPP314 (314A) (SEQ ID NO:669) and the nucleic acid sequence HPP314B (225B) (SEQ ID NO:225) which encodes HPP314;

Figures 315A and 226B contain the amino acid sequence of *H. pylori* polypeptide HPP315 (315A) (SEQ ID NO:670) and the nucleic acid sequence HPP315B (226B) (SEQ ID NO:226) which encodes HPP315;

Figure 316A contains the amino acid sequence of *H. pylori* polypeptide HPP316 (316A) (SEQ ID NO:671);

Figure 317A contains the amino acid sequence of *H. pylori* polypeptide HPP317 (317A) (SEQ ID NO:672);

Figures 318A and 227B contain the amino acid sequence of *H. pylori* polypeptide HPP318 (318A) (SEQ ID NO:673) and the nucleic acid sequence HPP318B (227B) (SEQ ID NO:227) which encodes HPP318;

Figures 319A and 228B contain the amino acid sequence of *H. pylori* polypeptide HPP319 (319A) (SEQ ID NO:674) and the nucleic acid sequence HPP319B (228B) (SEQ ID NO:228) which encodes HPP319;

Figure 320A contains the amino acid sequence of *H. pylori* polypeptide HPP320 (320A) (SEQ ID NO:675);

Figures 321A and 229B contain the amino acid sequence of *H. pylori* polypeptide HPP321 (321A) (SEQ ID NO:676) and the nucleic acid sequence HPP321B (229B) (SEQ ID NO:229) which encodes HPP321;

Figure 322A contains the amino acid sequence of *H. pylori* polypeptide HPP322 (322A) (SEQ ID NO:677);

Figures 323A and 230B contain the amino acid sequence of *H. pylori* polypeptide HPP323 (323A) (SEQ ID NO:678) and the nucleic acid sequence HPP323B (230B) (SEQ ID NO:230) which encodes HPP323;

Figures 324A and 231B contain the amino acid sequence of *H. pylori* polypeptide HPP324 (324A) (SEQ ID NO:679) and the nucleic acid sequence HPP324B (231B) (SEQ ID NO:231) which encodes HPP324;

Figures 325A and 232B contain the amino acid sequence of *H. pylori* polypeptide HPP325 (325A) (SEQ ID NO:680) and the nucleic acid sequence HPP325B (232B) (SEQ ID NO:232) which encodes HPP325;

Figures 326A and 233B contain the amino acid sequence of *H. pylori* polypeptide HPP326 (326A) (SEQ ID NO:681) and the nucleic acid sequence HPP326B (233B) (SEQ ID NO:233) which encodes HPP326;

Figures 327A and 234B contain the amino acid sequence of *H. pylori* polypeptide HPP327 (327A) (SEQ ID NO:682) and the nucleic acid sequence HPP327B (234B) (SEQ ID NO:234) which encodes HPP327;

Figure 328A contains the amino acid sequence of *H. pylori* polypeptide HPP328 (328A);

Figure 329A contains the amino acid sequence of *H. pylori* polypeptide HPP329 (329A);

Figures 330A and 235B contain the amino acid sequence of *H. pylori* polypeptide HPP330 (330A) (SEQ ID NO:683) and the nucleic acid sequence HPP330B (235B) (SEQ ID NO:235) which encodes HPP330;

Figure 331A contains the amino acid sequence of *H. pylori* polypeptide HPP331 (331A) (SEQ ID NO:684);

Figure 332A contains the amino acid sequence of *H. pylori* polypeptide HPP332 (332A) (SEQ ID NO:685);

Figure 333A contains the amino acid sequence of *H. pylori* polypeptide HPP333 (333A) (SEQ ID NO:686);

Figure 334A contains the amino acid sequence of *H. pylori* polypeptide HPP334 (334A);

Figures 335A and 236B contain the amino acid sequence of *H. pylori* polypeptide HPP335 (335A) (SEQ ID NO:687) and the nucleic acid sequence HPP335B (236B) (SEQ ID NO:236) which encodes HPP335;

Figures 336A and 237B contain the amino acid sequence of *H. pylori* polypeptide HPP336 (336A) (SEQ ID NO:688) and the nucleic acid sequence HPP336B (237B) (SEQ ID NO:237) which encodes HPP336;

Figures 337A and 238B contain the amino acid sequence of *H. pylori* polypeptide HPP337 (337A) (SEQ ID NO:689) and the nucleic acid sequence HPP337B (238B) (SEQ ID NO:238) which encodes HPP337;

Figures 338A and 239B contain the amino acid sequence of *H. pylori* polypeptide HPP338 (338A) (SEQ ID NO:690) and the nucleic acid sequence HPP338B (239B) (SEQ ID NO:239) which encodes HPP338;

Figure 339A contains the amino acid sequence of *H. pylori* polypeptide HPP339 (339A);

Figure 340A contains the amino acid sequence of *H. pylori* polypeptide HPP340 (340A);

Figures 341A and 240B contain the amino acid sequence of *H. pylori* polypeptide HPP341 (341A) (SEQ ID NO:691) and the nucleic acid sequence HPP341B (240B) (SEQ ID NO:240) which encodes HPP341;

Figures 342A and 241B contain the amino acid sequence of *H. pylori* polypeptide HPP342 (342A) (SEQ ID NO:692) and the nucleic acid sequence HPP342B (241B) (SEQ ID NO:241) which encodes HPP342;

Figure 343A contains the amino acid sequence of *H. pylori* polypeptide HPP343 (343A) (SEQ ID NO:693);

Figure 344A contains the amino acid sequence of *H. pylori* polypeptide HPP344 (344A);

Figures 345A and 242B contain the amino acid sequence of *H. pylori* polypeptide HPP345 (345A) (SEQ ID NO:694) and the nucleic acid sequence HPP345B (242B) (SEQ ID NO:242) which encodes HPP345;

Figures 346A and 243B contain the amino acid sequence of *H. pylori* polypeptide HPP346 (346A) (SEQ ID NO:695) and the nucleic acid sequence HPP346B (243B) (SEQ ID NO:243) which encodes HPP346;

Figures 347A and 244B contain the amino acid sequence of *H. pylori* polypeptide HPP347 (347A) (SEQ ID NO:696) and the nucleic acid sequence HPP347B (244B) (SEQ ID NO:244) which encodes HPP347;

Figures 348A contains the amino acid sequence of *H. pylori* polypeptide HPP348 (348A);

Figures 349A and 245B contain the amino acid sequence of *H. pylori* polypeptide HPP349 (349A) (SEQ ID NO:697) and the nucleic acid sequence HPP349B (245B) (SEQ ID NO:245) which encodes HPP349;

Figures 350A and 246B contain the amino acid sequence of *H. pylori* polypeptide HPP350 (350A) (SEQ ID NO:698) and the nucleic acid sequence HPP350B (246B) (SEQ ID NO:246) which encodes HPP350;

Figure 351A contains the amino acid sequence of *H. pylori* polypeptide HPP351 (351A);

Figures 352A and 247B contain the amino acid sequence of *H. pylori* polypeptide HPP352 (352A) (SEQ ID NO:699) and the nucleic acid sequence HPP352B (247B) (SEQ ID NO:247) which encodes HPP352;

Figures 353A and 248B contain the amino acid sequence of *H. pylori* polypeptide HPP353 (353A) (SEQ ID NO:700) and the nucleic acid sequence HPP353 (248B) (SEQ ID NO:248) which encodes HPP353;

Figures 354A and 249B contain the amino acid sequence of *H. pylori* polypeptide HPP354 (354A) (SEQ ID NO:701) and the nucleic acid sequence HPP354B (249B) (SEQ ID NO:249) which encodes HPP354;

Figures 355A and 250B contain the amino acid sequence of *H. pylori* polypeptide HPP355 (355A) (SEQ ID NO:702) and the nucleic acid sequence HPP355B (250B) (SEQ ID NO:250) which encodes HPP355;

Figure 356A contains the amino acid sequence of *H. pylori* polypeptide HPP356 (356A) (SEQ ID NO:703);

Figure 357A contains the amino acid sequence of *H. pylori* polypeptide HPP357 (357A) (SEQ ID NO:704);

Figure 358A contains the amino acid sequence of *H. pylori* polypeptide HPP358 (358A);

Figures 359A and 251B contain the amino acid sequence of *H. pylori* polypeptide HPP359 (359A) (SEQ ID NO:705) and the nucleic acid sequence HPP359B (251B) (SEQ ID NO:251) which encodes HPP359;

Figures 360A and 252B contain the amino acid sequence of *H. pylori* polypeptide HPP360 (360A) (SEQ ID NO:706) and the nucleic acid sequence HPP360B (252B) (SEQ ID NO:252) which encodes HPP360;

Figures 361A and 253B contain the amino acid sequence of *H. pylori* polypeptide HPP361 (361A) (SEQ ID NO:707) and the nucleic acid sequence HPP361B (253B) (SEQ ID NO:253) which encodes HPP361;

Figures 362A and 254B contain the amino acid sequence of *H. pylori* polypeptide HPP362 (362A) (SEQ ID NO:708) and the nucleic acid sequence HPP362B (254B) (SEQ ID NO:254) which encodes HPP362;

Figure 363A contains the amino acid sequence of *H. pylori* polypeptide HPP363 (363A) (SEQ ID NO:709);

Figure 364A contains the amino acid sequence of *H. pylori* polypeptide HPP364 (364A) (SEQ ID NO:710);

Figure 365A contains the amino acid sequence of *H. pylori* polypeptide HPP365 (365A);

Figure 366A contains the amino acid sequence of *H. pylori* polypeptide HPP366 (366A) (SEQ ID NO:711);

Figures 367A and 255B contain the amino acid sequence of *H. pylori* polypeptide HPP367 (367A) (SEQ ID NO:712) and the nucleic acid sequence HPP367B (255B) (SEQ ID NO:255) which encodes HPP367;

Figures 368A and 256B contain the amino acid sequence of *H. pylori* polypeptide HPP368 (368A) (SEQ ID NO:713) and the nucleic acid sequence HPP368B (256B) (SEQ ID NO:256) which encodes HPP368;

Figures 369A and 257B contain the amino acid sequence of *H. pylori* polypeptide HPP369 (369A) (SEQ ID NO:714) and the nucleic acid sequence HPP369B (257B) (SEQ ID NO:257) which encodes HPP369;

Figures 370A contains the amino acid sequence of *H. pylori* polypeptide HPP370 (370A);

Figure 371A contains the amino acid sequence of *H. pylori* polypeptide HPP371 (371A) (SEQ ID NO:715);

Figures 372A and 258B contain the amino acid sequence of *H. pylori* polypeptide HPP372 (372A) (SEQ ID NO:716) and the nucleic acid sequence HPP372B (258B) (SEQ ID NO:258) which encodes HPP372;

Figures 373A and 259B contain the amino acid sequence of *H. pylori* polypeptide HPP373 (373A) (SEQ ID NO:717) and the nucleic acid sequence HPP373B (259B) (SEQ ID NO:259) which encodes HPP373;

Figure 374A contains the amino acid sequence of *H. pylori* polypeptide HPP374 (374A);

Figures 375A and 260B contain the amino acid sequence of *H. pylori* polypeptide HPP375 (375A) (SEQ ID NO:718) and the nucleic acid sequence HPP375B (260B) (SEQ ID NO:260) which encodes HPP375;

Figures 376A and 261B contain the amino acid sequence of *H. pylori* polypeptide HPP376 (376A) (SEQ ID NO:719) and the nucleic acid sequence HPP376B (261B) (SEQ ID NO:261) which encodes HPP376;

Figures 377A and 262B contain the amino acid sequence of *H. pylori* polypeptide HPP377 (377A) (SEQ ID NO:720) and the nucleic acid sequence HPP377B (262B) (SEQ ID NO:262) which encodes HPP377;

Figures 378A and 263B contain the amino acid sequence of *H. pylori* polypeptide HPP378 (378A) (SEQ ID NO:721) and the nucleic acid sequence HPP378B (263B) (SEQ ID NO:263) which encodes HPP378;

Figures 379A and 264B contain the amino acid sequence of *H. pylori* polypeptide HPP379 (379A) (SEQ ID NO:722) and the nucleic acid sequence HPP379B (264B) (SEQ ID NO:264) which encodes HPP379;

Figure 380A contains the amino acid sequence of *H. pylori* polypeptide HPP380 (380A) (SEQ ID NO:723);

Figure 381A contains the amino acid sequence of *H. pylori* polypeptide HPP381 (381A) (SEQ ID NO:724);

Figures 382A and 265B contain the amino acid sequence of *H. pylori* polypeptide HPP382 (382A) (SEQ ID NO:725) and the nucleic acid sequence HPP382B (265B) (SEQ ID NO:265) which encodes HPP382;

Figures 383A and 266B contain the amino acid sequence of *H. pylori* polypeptide HPP383 (383A) (SEQ ID NO:726) and the nucleic acid sequence HPP383B (266B) (SEQ ID NO:266) which encodes HPP383;

Figures 384A and 267B contain the amino acid sequence of *H. pylori* polypeptide HPP384 (384A) (SEQ ID NO:727) and the nucleic acid sequence HPP383B (267B) (SEQ ID NO:267) which encodes HPP384;

Figures 385A and 268B contain the amino acid sequence of *H. pylori* polypeptide HPP385 (385A) (SEQ ID NO:728) and the nucleic acid sequence HPP385B (268B) (SEQ ID NO:268) which encodes HPP385;

Figures 386A and 269B contain the amino acid sequence of *H. pylori* polypeptide HPP386 (386A) (SEQ ID NO:729) and the nucleic acid sequence HPP386B (269B) (SEQ ID NO:269) which encodes HPP386;

Figures 387A and 270B contain the amino acid sequence of *H. pylori* polypeptide HPP387 (387A) (SEQ ID NO:730) and the nucleic acid sequence HPP387B (270B) (SEQ ID NO:270) which encodes HPP387;

Figure 388A contains the amino acid sequence of *H. pylori* polypeptide HPP388 (388A) (SEQ ID NO:731);

Figures 389A and 271B contain the amino acid sequence of *H. pylori* polypeptide HPP389 (389A) (SEQ ID NO:732) and the nucleic acid sequence HPP389B (271B) (SEQ ID NO:271) which encodes HPP389;

Figures 390A and 272B contain the amino acid sequence of *H. pylori* polypeptide HPP390 (390A) (SEQ ID NO:733) and the nucleic acid sequence HPP390B (272B) (SEQ ID NO:272) which encodes HPP390;

Figure 391A contains the amino acid sequence of *H. pylori* polypeptide HPP391 (391A) (SEQ ID NO:734);

Figures 392A contains the amino acid sequence of *H. pylori* polypeptide HPP392 (392A);

Figures 393A and 273B contain the amino acid sequence of *H. pylori* polypeptide HPP393 (393A) (SEQ ID NO:735) and the nucleic acid sequence HPP393B (273B) (SEQ ID NO:273) which encodes HPP393;

Figures 394A and 274B contain the amino acid sequence of *H. pylori* polypeptide HPP394 (394A) (SEQ ID NO:736) and the nucleic acid sequence HPP394B (274B) (SEQ ID NO:274) which encodes HPP394;

Figures 395A and 275B contain the amino acid sequence of *H. pylori* polypeptide HPP395 (395A) (SEQ ID NO:737) and the nucleic acid sequence HPP395B (275B) (SEQ ID NO:275) which encodes HPP395;

Figure 396A contains the amino acid sequence of *H. pylori* polypeptide HPP396 (396A);

Figure 397A contains the amino acid sequence of *H. pylori* polypeptide HPP397 (397A);

Figures 398A and 276B contain the amino acid sequence of *H. pylori* polypeptide HPP398 (398A) (SEQ ID NO:738) and the nucleic acid sequence HPP398B (276B) (SEQ ID NO:276) which encodes HPP398;

Figures 399A and 277B contain the amino acid sequence of *H. pylori* polypeptide HPP399 (399A) (SEQ ID NO:739) and the nucleic acid sequence HPP399B (277B) (SEQ ID NO:277) which encodes HPP399;

Figure 400A contains the amino acid sequence of *H. pylori* polypeptide HPP400 (400A);

Figures 401A and 278B contain the amino acid sequence of *H. pylori* polypeptide HPP401 (401A) (SEQ ID NO:740) and the nucleic acid sequence HPP401B (278B) (SEQ ID NO:278) which encodes HPP401;

Figures 402A and 279B contain the amino acid sequence of *H. pylori* polypeptide HPP402 (402A) (SEQ ID NO:741) and the nucleic acid sequence HPP402B (279B) (SEQ ID NO:279) which encodes HPP402;

Figures 403A and 280B contain the amino acid sequence of *H. pylori* polypeptide HPP403 (403A) (SEQ ID NO:742) and the nucleic acid sequence HPP403B (280B) (SEQ ID NO:280) which encodes HPP403;

Figures 404A and 281B contain the amino acid sequence of *H. pylori* polypeptide HPP404 (404A) (SEQ ID NO:743) and the nucleic acid sequence HPP404B (281B) (SEQ ID NO:281) which encodes HPP404;

Figures 405A and 282B contain the amino acid sequence of *H. pylori* polypeptide HPP405 (405A) (SEQ ID NO:744) and the nucleic acid sequence HPP405B (282B) (SEQ ID NO:282) which encodes HPP405;

Figure 406A contains the amino acid sequence of *H. pylori* polypeptide HPP406 (406A) (SEQ ID NO:745);

Figures 407A and 283B contain the amino acid sequence of *H. pylori* polypeptide HPP407 (407A) (SEQ ID NO:746) and the nucleic acid sequence HPP407B (283B) (SEQ ID NO:283) which encodes HPP407;

Figure 408A contains the amino acid sequence of *H. pylori* polypeptide HPP408 (408A);

Figures 409A and 284B contain the amino acid sequence of *H. pylori* polypeptide HPP409 (409A) (SEQ ID NO:747) and the nucleic acid sequence HPP409B (284B) (SEQ ID NO:284) which encodes HPP409;

Figures 410A and 285B contain the amino acid sequence of *H. pylori* polypeptide HPP410 (410A) (SEQ ID NO:748) and the nucleic acid sequence HPP410B (285B) (SEQ ID NO:285) which encodes HPP410;

Figures 411A and 286B contain the amino acid sequence of *H. pylori* polypeptide HPP411 (411A) (SEQ ID NO:749) and the nucleic acid sequence HPP411B (286B) (SEQ ID NO:286) which encodes HPP411;

Figures 412A and 287B contain the amino acid sequence of *H. pylori* polypeptide HPP412 (412A) (SEQ ID NO:750) and the nucleic acid sequence HPP412B (287B) (SEQ ID NO:287) which encodes HPP412;

Figures 413A and 288B contain the amino acid sequence of *H. pylori* polypeptide HPP413 (413A) (SEQ ID NO:751) and the nucleic acid sequence HPP413B (288B) (SEQ ID NO:288) which encodes HPP413;

Figures 414A and 289B contain the amino acid sequence of *H. pylori* polypeptide HPP414 (414A) (SEQ ID NO:752) and the nucleic acid sequence HPP414B (289B) (SEQ ID NO:289) which encodes HPP414;

Figure 415A contains the amino acid sequence of *H. pylori* polypeptide HPP415 (415A) (SEQ ID NO:753);

Figure 416A contains the amino acid sequence of *H. pylori* polypeptide HPP416 (416A) (SEQ ID NO:754);

Figures 417A and 290B contain the amino acid sequence of *H. pylori* polypeptide HPP417 (417A) (SEQ ID NO:755) and the nucleic acid sequence HPP417B (290B) (SEQ ID NO:290) which encodes HPP417;

Figures 418A and 291B contain the amino acid sequence of *H. pylori* polypeptide HPP418 (418A) (SEQ ID NO:756) and the nucleic acid sequence HPP418B (291B) (SEQ ID NO:291) which encodes HPP418;

Figures 419A and 292B contain the amino acid sequence of *H. pylori* polypeptide HPP419 (419A) (SEQ ID NO:757) and the nucleic acid sequence HPP419B (292B) (SEQ ID NO:292) which encodes HPP419;

Figure 420A contains the amino acid sequence of *H. pylori* polypeptide HPP420 (420A) (SEQ ID NO:758);

Figures 421A and 293B contain the amino acid sequence of *H. pylori* polypeptide HPP421 (421A) (SEQ ID NO:759) and the nucleic acid sequence HPP421B (293B) (SEQ ID NO:293) which encodes HPP421;

Figure 422A contains the amino acid sequence of *H. pylori* polypeptide HPP422 (422A) (SEQ ID NO:760);

Figures 423A and 294B contain the amino acid sequence of *H. pylori* polypeptide HPP423 (423A) (SEQ ID NO:761) and the nucleic acid sequence HPP423B (294B) (SEQ ID NO:294) which encodes HPP423;

Figures 424A and 295B contain the amino acid sequence of *H. pylori* polypeptide HPP424A (424A) (SEQ ID NO:762) and the nucleic acid sequence HPP424B (295B) (SEQ ID NO:295) which encodes HPP424;

Figures 425A and 296B contain the amino acid sequence of *H. pylori* polypeptide HPP425 (425A) (SEQ ID NO:763) and the nucleic acid sequence HPP425B (296B) (SEQ ID NO:296) which encodes HPP425;

Figure 426A contains the amino acid sequence of *H. pylori* polypeptide HPP426A (426A) (SEQ ID NO:764);

Figure 427A contains the amino acid sequence of *H. pylori* polypeptide HPP427 (427A) (SEQ ID NO:765);

Figure 428A contains the amino acid sequence of *H. pylori* polypeptide HPP428 (428A) (SEQ ID NO:766);

Figures 429A and 297B contain the amino acid sequence of *H. pylori* polypeptide HPP429 (429A) (SEQ ID NO:767) and the nucleic acid sequence HPP429B (297B) (SEQ ID NO:297) which encodes HPP429;

Figures 430A and 298B contain the amino acid sequence of *H. pylori* polypeptide HPP430 (430A) (SEQ ID NO:768) and the nucleic acid sequence HPP430B (298B) (SEQ ID NO:298) which encodes HPP430;

Figures 431A and 299B contain the amino acid sequence of *H. pylori* polypeptide HPP431 (431A) (SEQ ID NO:769) and the nucleic acid sequence HPP431B (299B) (SEQ ID NO:299) which encodes HPP431;

Figure 432A contains the amino acid sequence of *H. pylori* polypeptide HPP432 (432A);

Figures 433A and 300B contain the amino acid sequence of *H. pylori* polypeptide HPP433 (433A) (SEQ ID NO:770) and the nucleic acid sequence HPP433B (300B) (SEQ ID NO:300) which encodes HPP433;

Figures 434A and 301B contain the amino acid sequence of *H. pylori* polypeptide HPP434 (434A) (SEQ ID NO:771) and the nucleic acid sequence HPP434B (301B) (SEQ ID NO:301) which encodes HPP434;

Figures 435A and 302B contain the amino acid sequence of *H. pylori* polypeptide HPP435 (435A) (SEQ ID NO:772) and the nucleic acid sequence HPP435B (302B) (SEQ ID NO:302) which encodes HPP435;

Figures 436A and 303B contain the amino acid sequence of *H. pylori* polypeptide HPP436 (436A) (SEQ ID NO:773) and the nucleic acid sequence HPP436B (303B) (SEQ ID NO:303) which encodes HPP436;

Figure 437A contains the amino acid sequence of *H. pylori* polypeptide HPP437 (437A) (SEQ ID NO:774);

Figures 438A and 304B contain the amino acid sequence of *H. pylori* polypeptide HPP438 (438A) (SEQ ID NO:775) and the nucleic acid sequence HPP438B (304B) (SEQ ID NO:304) which encodes HPP438;

Figure 439A contains the amino acid sequence of *H. pylori* polypeptide HPP439 (439A) (SEQ ID NO:776);

Figures 440A and 305B contain the amino acid sequence of *H. pylori* polypeptide HPP440 (440A) (SEQ ID NO:777) and the nucleic acid sequence HPP440B (305B) (SEQ ID NO:305) which encodes HPP440;

Figure 441A contains the amino acid sequence of *H. pylori* polypeptide HPP441 (441A) (SEQ ID NO:778);

Figures 442A and 306B contain the amino acid sequence of *H. pylori* polypeptide HPP442 (442A) (SEQ ID NO:779) and the nucleic acid sequence HPP442B (306B) (SEQ ID NO:306) which encodes HPP442;

Figures 443A and 307B contain the amino acid sequence of *H. pylori* polypeptide HPP443 (443A) (SEQ ID NO:780) and the nucleic acid sequence HPP443B (307B) (SEQ ID NO:307) which encodes HPP443;

Figures 444A and 308B contain the amino acid sequence of *H. pylori* polypeptide HPP444 (444A) (SEQ ID NO:781) and the nucleic acid sequence HPP444B (308B) (SEQ ID NO:308) which encodes HPP444;

Figures 445A and 309B contain the amino acid sequence of *H. pylori* polypeptide HPP445 (445A) (SEQ ID NO:782) and the nucleic acid sequence HPP445B (309B) (SEQ ID NO:309) which encodes HPP445;

Figures 446A and 310B contain the amino acid sequence of *H. pylori* polypeptide HPP446 (446A) (SEQ ID NO:783) and the nucleic acid sequence HPP446B (310B) (SEQ ID NO:310) which encodes HPP446;

Figures 447A and 311B contain the amino acid sequence of *H. pylori* polypeptide HPP447 (447A) (SEQ ID NO:784) and the nucleic acid sequence HPP447B (311B) (SEQ ID NO:311) which encodes HPP447;

Figure 448A contains the amino acid sequence of *H. pylori* polypeptide HPP448 (448A) (SEQ ID NO:785);

Figure 449A contains the amino acid sequence of *H. pylori* polypeptide HPP449 (449A);

Figures 450A and 312B contain the amino acid sequence of *H. pylori* polypeptide HPP450 (450A) (SEQ ID NO:786) and the nucleic acid sequence HPP450B (312B) (SEQ ID NO:312) which encodes HPP450;

Figures 451A and 313B contain the amino acid sequence of *H. pylori* polypeptide HPP451 (451A) (SEQ ID NO:787) and the nucleic acid sequence HPP451B (313B) (SEQ ID NO:313) which encodes HPP451;

Figure 452A contains the amino acid sequence of *H. pylori* polypeptide HPP452 (452A) (SEQ ID NO:788);

Figures 453A and 314B contain the amino acid sequence of *H. pylori* polypeptide HPP453 (453A) (SEQ ID NO:789) and the nucleic acid sequence HPP453B (314B) (SEQ ID NO:314) which encodes HPP453;

Figures 454A and 315B contain the amino acid sequence of *H. pylori* polypeptide HPP454 (454A) (SEQ ID NO:790) and the nucleic acid sequence HPP454B (315B) (SEQ ID NO:315) which encodes HPP454;

Figures 455A and 316B contain the amino acid sequence of *H. pylori* polypeptide HPP455 (455A) (SEQ ID NO:791) and the nucleic acid sequence HPP455B (316B) (SEQ ID NO:316) which encodes HPP455;

Figures 456A and 317B contain the amino acid sequence of *H. pylori* polypeptide HPP456 (456A) (SEQ ID NO:792) and the nucleic acid sequence HPP456B (317B) (SEQ ID NO:317) which encodes HPP456;

Figure 457A contains the amino acid sequence of *H. pylori* polypeptide HPP457 (457A) (SEQ ID NO:793);

Figures 458A and 318B contain the amino acid sequence of *H. pylori* polypeptide HPP458 (458A) (SEQ ID NO:794) and the nucleic acid sequence HPP458B (318B) (SEQ ID NO:318) which encodes HPP458;

Figure 459A contains the amino acid sequence of *H. pylori* polypeptide HPP459 (459A) (SEQ ID NO:795);

Figures 460A and 319B contain the amino acid sequence of *H. pylori* polypeptide HPP460 (460A) (SEQ ID NO:796) and the nucleic acid sequence HPP460B (319B) (SEQ ID NO:319) which encodes HPP460;

Figure 461A contains the amino acid sequence of *H. pylori* polypeptide HPP461 (461A) (SEQ ID NO:797);

Figures 462A and 320B contain the amino acid sequence of *H. pylori* polypeptide HPP462 (462A) (SEQ ID NO:798) and the nucleic acid sequence HPP462B (320B) (SEQ ID NO:320) which encodes HPP462;

Figures 463A and 321B contain the amino acid sequence of *H. pylori* polypeptide HPP463 (463A) (SEQ ID NO:799) and the nucleic acid sequence HPP463B (321B) (SEQ ID NO:321) which encodes HPP463;

Figures 464A and 322B contain the amino acid sequence of *H. pylori* polypeptide HPP464 (464A) (SEQ ID NO:800) and the nucleic acid sequence HPP464B (322B) (SEQ ID NO:322) which encodes HPP464;

Figures 465A and 323B contain the amino acid sequence of *H. pylori* polypeptide HPP465 (465A) (SEQ ID NO:801) and the nucleic acid sequence HPP465B (323B) (SEQ ID NO:323) which encodes HPP465;

Figure 466A contains the amino acid sequence of *H. pylori* polypeptide HPP466 (466A);

Figures 467A and 324B contain the amino acid sequence of *H. pylori* polypeptide HPP467 (467A) (SEQ ID NO:802) and the nucleic acid sequence HPP467B (324B) (SEQ ID NO:324) which encodes HPP467;

Figures 468A and 325B contain the amino acid sequence of *H. pylori* polypeptide HPP468 (468A) (SEQ ID NO:803) and the nucleic acid sequence HPP468B (325B) (SEQ ID NO:325) which encodes HPP468;

Figures 469A and 326B contain the amino acid sequence of *H. pylori* polypeptide HPP469 (469A) (SEQ ID NO:804) and the nucleic acid sequence HPP469B (326B) (SEQ ID NO:326) which encodes HPP469;

Figures 470A and 327B contain the amino acid sequence of *H. pylori* polypeptide HPP470 (470A) (SEQ ID NO:805) and the nucleic acid sequence HPP470B (327B) (SEQ ID NO:327) which encodes HPP470;

Figure 471A contains the amino acid sequence of *H. pylori* polypeptide HPP471 (471A) (SEQ ID NO:806);

Figures 472A and 328B contain the amino acid sequence of *H. pylori* polypeptide HPP472 (472A) (SEQ ID NO:807) and the nucleic acid sequence HPP472B (328B) (SEQ ID NO:328) which encodes HPP472;

Figures 473A and 329B contain the amino acid sequence of *H. pylori* polypeptide HPP473 (473A) (SEQ ID NO:808) and the nucleic acid sequence HPP473B (329B) (SEQ ID NO:329) which encodes HPP473;

Figures 474A and 330B contain the amino acid sequence of *H. pylori* polypeptide HPP474 (474A) (SEQ ID NO:809) and the nucleic acid sequence HPP474B (330B) (SEQ ID NO:330) which encodes HPP474;

Figures 475A and 331B contain the amino acid sequence of *H. pylori* polypeptide HPP475 (475A) (SEQ ID NO:810) and the nucleic acid sequence HPP475B (331B) (SEQ ID NO:331) which encodes HPP475;

Figures 476A and 332B contain the amino acid sequence of *H. pylori* polypeptide HPP476 (476A) (SEQ ID NO:811) and the nucleic acid sequence HPP476B (332B) (SEQ ID NO:332) which encodes HPP476;

Figure 477A contains the amino acid sequence of *H. pylori* polypeptide HPP477 (477A) (SEQ ID NO:812);

Figures 478A and 333B contain the amino acid sequence of *H. pylori* polypeptide HPP478 (478A) (SEQ ID NO:813) and the nucleic acid sequence HPP478B (333B) (SEQ ID NO:333) which encodes HPP478;

Figures 479A and 334B contain the amino acid sequence of *H. pylori* polypeptide HPP479 (479A) (SEQ ID NO:814) and the nucleic acid sequence HPP479B (334B) (SEQ ID NO:334) which encodes HPP479;

Figure 480A contains the amino acid sequence of *H. pylori* polypeptide HPP480 (480A);

Figures 481A and 335 contain the amino acid sequence of *H. pylori* polypeptide HPP481 (481A) (SEQ ID NO:815) and the nucleic acid sequence HPP481B (335B) (SEQ ID NO:335) which encodes HPP481;

Figures 482A and 336B contain the amino acid sequence of *H. pylori* polypeptide HPP482 (482A) (SEQ ID NO:816) and the nucleic acid sequence HPP482B (336B) (SEQ ID NO:336) which encodes HPP482;

Figures 483A and 337B contain the amino acid sequence of *H. pylori* polypeptide HPP483 (483A) (SEQ ID NO:817) and the nucleic acid sequence HPP483B (337B) (SEQ ID NO:337) which encodes HPP483;

Figures 484A and 338B contain the amino acid sequence of *H. pylori* polypeptide HPP484 (484A) (SEQ ID NO:818) and the nucleic acid sequence HPP484B (338B) (SEQ ID NO:338) which encodes HPP484;

Figures 485A and 339B contain the amino acid sequence of *H. pylori* polypeptide HPP485 (485A) (SEQ ID NO:819) and the nucleic acid sequence HPP485B (339B) (SEQ ID NO:339) which encodes HPP485;

Figure 486A contains the amino acid sequence of *H. pylori* polypeptide HPP486 (486A) (SEQ ID NO:820);

Figures 487A and 340B contain the amino acid sequence of *H. pylori* polypeptide HPP487 (487A) (SEQ ID NO:821) and the nucleic acid sequence HPP487B (340B) (SEQ ID NO:340) which encodes HPP487;

Figures 488A and 341B contain the amino acid sequence of *H. pylori* polypeptide HPP488 (488A) (SEQ ID NO:822) and the nucleic acid sequence HPP488B (341B) (SEQ ID NO:341) which encodes HPP488;

Figure 489A contains the amino acid sequence of *H. pylori* polypeptide HPP489 (489A) (SEQ ID NO:823);

Figures 490A and 342B contain the amino acid sequence of *H. pylori* polypeptide HPP490 (490A) (SEQ ID NO:824) and the nucleic acid sequence HPP490B (342B) (SEQ ID NO:342) which encodes HPP490;

Figures 491A and 343B contain the amino acid sequence of *H. pylori* polypeptide HPP491 (491A) (SEQ ID NO:825) and the nucleic acid sequence HPP491B (343B) (SEQ ID NO:343) which encodes HPP491;

Figures 492A and 344B contain the amino acid sequence of *H. pylori* polypeptide HPP492 (492A) (SEQ ID NO:826) and the nucleic acid sequence HPP492B (344B) (SEQ ID NO:344) which encodes HPP492;

Figure 493A contains the amino acid sequence of *H. pylori* polypeptide HPP493 (493A) (SEQ ID NO:827);

Figures 494A and 345B contain the amino acid sequence of *H. pylori* polypeptide HPP494 (494A) (SEQ ID NO:828) and the nucleic acid sequence HPP494B (345B) (SEQ ID NO:345) which encodes HPP494;

Figures 495A and 346B contain the amino acid sequence of *H. pylori* polypeptide HPP495 (495A) (SEQ ID NO:829) and the nucleic acid sequence HPP495B (346B) (SEQ ID NO:346) which encodes HPP495;

Figures 496A and 347B contain the amino acid sequence of *H. pylori* polypeptide HPP496 (496A) (SEQ ID NO:830) and the nucleic acid sequence HPP496B (347B) (SEQ ID NO:347) which encodes HPP496;

Figures 497A and 348B contain the amino acid sequence of *H. pylori* polypeptide HPP497 (497A) (SEQ ID NO:831) and the nucleic acid sequence HPP497B (348B) (SEQ ID NO:348) which encodes HPP497;

Figures 498A and 349B contain the amino acid sequence of *H. pylori* polypeptide HPP498 (498A) (SEQ ID NO:832) and the nucleic acid sequence HPP498B (349B) (SEQ ID NO:349) which encodes HPP498;

Figure 499A contains the amino acid sequence of *H. pylori* polypeptide HPP499 (499A) (SEQ ID NO:833);

Figure 500A contains the amino acid sequence of *H. pylori* polypeptide HPP500 (500A) (SEQ ID NO:834);

Figures 501A and 350B contain the amino acid sequence of *H. pylori* polypeptide HPP501 (501A) (SEQ ID NO:835) and the nucleic acid sequence HPP501B (350B) (SEQ ID NO:350) which encodes HPP501;

Figures 502A and 351B contain the amino acid sequence of *H. pylori* polypeptide HPP502 (502A) (SEQ ID NO:836) and the nucleic acid sequence HPP502B (351B) (SEQ ID NO:351) which encodes HPP502;

Figures 503A and 352B contain the amino acid sequence of *H. pylori* polypeptide HPP503 (503A) (SEQ ID NO:837) and the nucleic acid sequence HPP503B (352B) (SEQ ID NO:352) which encodes HPP503;

Figures 504A and 353B contain the amino acid sequence of *H. pylori* polypeptide HPP504 (504A) (SEQ ID NO:838) and the nucleic acid sequence HPP504B (353B) (SEQ ID NO:353) which encodes HPP504;

Figures 505A and 354B contain the amino acid sequence of *H. pylori* polypeptide HPP505 (505A) (SEQ ID NO:839) and the nucleic acid sequence HPP505B (354B) (SEQ ID NO:354) which encodes HPP505;

Figures 506A and 355B contain the amino acid sequence of *H. pylori* polypeptide HPP506 (506A) (SEQ ID NO:840) and the nucleic acid sequence HPP506B (355B) (SEQ ID NO:355) which encodes HPP506;

Figure 507A contains the amino acid sequence of *H. pylori* polypeptide HPP507 (507A);

Figures 508A and 356B contain the amino acid sequence of *H. pylori* polypeptide HPP508 (508A) (SEQ ID NO:841) and the nucleic acid sequence HPP508B (356B) (SEQ ID NO:356) which encodes HPP508;

Figure 509A contains the amino acid sequence of *H. pylori* polypeptide HPP509 (509A) (SEQ ID NO:842);

Figures 510A and 357B contain the amino acid sequence of *H. pylori* polypeptide HPP510 (510A) (SEQ ID NO:843) and the nucleic acid sequence HPP510B (357B) (SEQ ID NO:357) which encodes HPP510;

Figures 511A and 358B contain the amino acid sequence of *H. pylori* polypeptide HPP511 (511A) (SEQ ID NO:844) and the nucleic acid sequence HPP511B (358B) (SEQ ID NO:358) which encodes HPP511;

Figure 512A contains the amino acid sequence of *H. pylori* polypeptide HPP512 (512A);

Figures 513A and 359B contain the amino acid sequence of *H. pylori* polypeptide HPP513 (513A) (SEQ ID NO:845) and the nucleic acid sequence HPP513B (359B) (SEQ ID NO:359) which encodes HPP513;

Figures 514A and 360B contain the amino acid sequence of *H. pylori* polypeptide HPP514 (514A) (SEQ ID NO:846) and the nucleic acid sequence HPP514B (360B) (SEQ ID NO:360) which encodes HPP514;

Figures 515A and 361B contain the amino acid sequence of *H. pylori* polypeptide HPP515 (515A) (SEQ ID NO:847) and the nucleic acid sequence HPP515B (361B) (SEQ ID NO:361) which encodes HPP515;

Figures 516A and 362B contain the amino acid sequence of *H. pylori* polypeptide HPP516 (516A) (SEQ ID NO:848) and the nucleic acid sequence HPP516B (362B) (SEQ ID NO:362) which encodes HPP516;

Figures 517A and 363B contain the amino acid sequence of *H. pylori* polypeptide HPP517 (517A) (SEQ ID NO:849) and the nucleic acid sequence HPP517B (363B) (SEQ ID NO:363) which encodes HPP517;

Figure 518A contains the amino acid sequence of *H. pylori* polypeptide HPP518 (518A);

Figures 519A and 364B contain the amino acid sequence of *H. pylori* polypeptide HPP519 (519A) (SEQ ID NO:850) and the nucleic acid sequence HPP519B (364B) (SEQ ID NO:364) which encodes HPP519;

Figures 520A and 365B contain the amino acid sequence of *H. pylori* polypeptide HPP520 (520A) (SEQ ID NO:851) and the nucleic acid sequence HPP520B (365B) (SEQ ID NO:365) which encodes HPP520;

Figure 521A contains the amino acid sequence of *H. pylori* polypeptide HPP521 (521A) (SEQ ID NO:852);

Figures 522A and 366B contain the amino acid sequence of *H. pylori* polypeptide HPP522 (522A) (SEQ ID NO:853) and the nucleic acid sequence HPP522B (366B) (SEQ ID NO:366) which encodes HPP522;

Figure 523A contains the amino acid sequence of *H. pylori* polypeptide HPP523 (523A) (SEQ ID NO:854);

Figure 524A contains the amino acid sequence of *H. pylori* polypeptide HPP524 (524A);

Figures 525A and 367B contain the amino acid sequence of *H. pylori* polypeptide HPP525 (525A) (SEQ ID NO:855) and the nucleic acid sequence HPP525B (367B) (SEQ ID NO:367) which encodes HPP525;

Figure 526A contains the amino acid sequence of *H. pylori* polypeptide HPP526 (526A);

Figures 527A and 368B contain the amino acid sequence of *H. pylori* polypeptide HPP527 (527A) (SEQ ID NO:856) and the nucleic acid sequence HPP527B (368B) (SEQ ID NO:368) which encodes HPP527;

Figures 528A and 369B contain the amino acid sequence of *H. pylori* polypeptide HPP528 (528A) (SEQ ID NO:857) and the nucleic acid sequence HPP528B (369B) (SEQ ID NO:369) which encodes HPP528;

Figure 529A contains the amino acid sequence of *H. pylori* polypeptide HPP529 (529A) (SEQ ID NO:858);

Figure 530A contains the amino acid sequence of *H. pylori* polypeptide HPP530 (530A);

Figure 531A contains the amino acid sequence of *H. pylori* polypeptide HPP531 (531A);

Figures 532A and 370B contain the amino acid sequence of *H. pylori* polypeptide HPP532 (532A) (SEQ ID NO:859) and the nucleic acid sequence HPP532B (370B) (SEQ ID NO:370) which encodes HPP532;

Figures 533A and 371B contain the amino acid sequence of *H. pylori* polypeptide HPP533 (533A) (SEQ ID NO:860) and the nucleic acid sequence HPP533B (371B) (SEQ ID NO:371) which encodes HPP533;

Figures 534A and 372B contain the amino acid sequence of *H. pylori* polypeptide HPP534 (534A) (SEQ ID NO:861) and the nucleic acid sequence HPP534B (372B) (SEQ ID NO:372) which encodes HPP534;

Figures 535A and 373B contain the amino acid sequence of *H. pylori* polypeptide HPP535 (535A) (SEQ ID NO:862) and the nucleic acid sequence HPP535B (373B) (SEQ ID NO:373) which encodes HPP535;

Figure 536A contains the amino acid sequence of *H. pylori* polypeptide HPP536 (536A) (SEQ ID NO:863);

Figure 537A contains the amino acid sequence of *H. pylori* polypeptide HPP537 (537A);

Figure 538A contains the amino acid sequence of *H. pylori* polypeptide HPP538 (538A);

Figure 539A contains the amino acid sequence of *H. pylori* polypeptide HPP539 (539A) (SEQ ID NO:864);

Figure 540A contains the amino acid sequence of *H. pylori* polypeptide HPP540 (540A) (SEQ ID NO:865);

Figures 541A and 374B contain the amino acid sequence of *H. pylori* polypeptide HPP541 (541A) (SEQ ID NO:866) and the nucleic acid sequence HPP541B (374B) (SEQ ID NO:374) which encodes HPP541;

Figure 542A contains the amino acid sequence of *H. pylori* polypeptide HPP542 (542A) (SEQ ID NO:867);

Figures 543A and 375B contain the amino acid sequence of *H. pylori* polypeptide HPP543 (543A) (SEQ ID NO:868) and the nucleic acid sequence HPP543B (375B) (SEQ ID NO:375) which encodes HPP543;

Figures 544A and 376B contain the amino acid sequence of *H. pylori* polypeptide HPP544 (544A) (SEQ ID NO:869) and the nucleic acid sequence HPP544B (376B) (SEQ ID NO:376) which encodes HPP544;

Figures 545A and 377B contain the amino acid sequence of *H. pylori* polypeptide HPP545 (545A) (SEQ ID NO:870) and the nucleic acid sequence HPP545B (377B) (SEQ ID NO:377) which encodes HPP545;

Figure 546A contains the amino acid sequence of *H. pylori* polypeptide HPP546 (546A);

Figures 547A and 378B contain the amino acid sequence of *H. pylori* polypeptide HPP547 (547A) (SEQ ID NO:871) and the nucleic acid sequence HPP547B (378B) (SEQ ID NO:378) which encodes HPP547;

Figure 548A contains the amino acid sequence of *H. pylori* polypeptide HPP548 (548A) (SEQ ID NO:872);

Figures 549A and 379B contain the amino acid sequence of *H. pylori* polypeptide HPP549 (549A) (SEQ ID NO:873) and the nucleic acid sequence HPP549B (379B) (SEQ ID NO:379) which encodes HPP549;

Figures 550A and 380B contain the amino acid sequence of *H. pylori* polypeptide HPP550 (550A) (SEQ ID NO:874) and the nucleic acid sequence HPP550B (380B) (SEQ ID NO:380) which encodes HPP550;

Figures 551A and 381B contain the amino acid sequence of *H. pylori* polypeptide HPP551 (551A) (SEQ ID NO:875) and the nucleic acid sequence HPP551B (381B) (SEQ ID NO:381) which encodes HPP551;

Figures 552A and 382B contain the amino acid sequence of *H. pylori* polypeptide HPP552 (552A) (SEQ ID NO:876) and the nucleic acid sequence HPP552B (382B) (SEQ ID NO:382) which encodes HPP552;

Figure 553A contains the amino acid sequence of *H. pylori* polypeptide HPP553 (553A) (SEQ ID NO:877);

Figure 554A contains the amino acid sequence of *H. pylori* polypeptide HPP554 (554A) (SEQ ID NO:878);

Figures 555A and 383B contain the amino acid sequence of *H. pylori* polypeptide HPP555 (555A) (SEQ ID NO:879) and the nucleic acid sequence HPP555B (383B) (SEQ ID NO:383) which encodes HPP555;

Figure 556A contains the amino acid sequence of *H. pylori* polypeptide HPP556 (556A) (SEQ ID NO:880);

Figure 557A contains the amino acid sequence of *H. pylori* polypeptide HPP557 (557A); and

Figure 558A contains the amino acid sequence of *H. pylori* polypeptide HPP558 (558A) --.

At page 2, line 30, replace "560" with --559-- after "Figure".

At page 3, line 6, replace "in vitro" with --*in vitro*--.

At page 6, line 24, insert --*Helicobacter pylori* polypeptide-- after "of"; and replace "HPP1" with --(HPP1) (SEQ ID NO:384)--;

line 25, insert --(SEQ ID NO:384)-- after "HPP1";

line 26, insert --(SEQ ID NOs:384-880)-- after "Figures 1A-558A";

line 27, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "in"; and replace "Figure 559 contains" with --Figures 1B - 383B (SEQ ID NOs:1-383) contain-- after the period;

line 28 insert --(SEQ ID NOs:384-880)-- after "Figures 1A-558A" and delete lines 28-32 starting with "The SEQ ID NO'snucleic acid sequence."

Delete page 6, line 33 through page 49, line 27 and insert --

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP2 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP2 polypeptide (SEQ ID NO:385).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP3 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP3 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP4 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP4 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP5 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP5 polypeptide (SEQ ID NO:386).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP6 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP6 polypeptide (SEQ ID NO:387).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP7 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP7 polypeptide (SEQ ID NO:388).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP8 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP8 polypeptide (SEQ ID NO:389).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP9 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP9 polypeptide (SEQ ID NO:390).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP10 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP10 polypeptide (SEQ ID NO:391).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP11 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP11 polypeptide (SEQ ID NO:392).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP12 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP12 polypeptide (SEQ ID NO:393).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP13 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP13 polypeptide (SEQ ID NO:394).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP14 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP14 polypeptide (SEQ ID NO:395).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP15 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP15 polypeptide (SEQ ID NO:396).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP16 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP16 polypeptide (SEQ ID NO:397).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP17 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP17 polypeptide (SEQ ID NO:398).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP18 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP18 polypeptide (SEQ ID NO:399).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP19 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP19 polypeptide (SEQ ID NO:400).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP20 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP20 polypeptide (SEQ ID NO:401).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP21 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP21 polypeptide (SEQ ID NO:402).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP22 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP22 polypeptide (SEQ ID NO:403).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP23 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP23 polypeptide (SEQ ID NO:404).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP24 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP24 polypeptide (SEQ ID NO:405).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP25 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP25 polypeptide (SEQ ID NO:406).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP26 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP26 polypeptide (SEQ ID NO:407).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP27 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP27 polypeptide (SEQ ID NO:408).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP28 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP28 polypeptide (SEQ ID NO:409).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP29 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP29 polypeptide (SEQ ID NO:410).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP30 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP30 polypeptide (SEQ ID NO:411).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP31 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP31 polypeptide (SEQ ID NO:412).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP32 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP32 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP33 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP33 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP34 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP34 polypeptide (SEQ ID NO:413).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP35 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP35 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP36 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP36 polypeptide (SEQ ID NO:414).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP37 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP37 polypeptide (SEQ ID NO:415).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP38 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP38 polypeptide (SEQ ID NO:416).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP39 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP39 polypeptide (SEQ ID NO:417).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP40 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP40 polypeptide (SEQ ID NO:418).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP41 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP41 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP42 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP42 polypeptide (SEQ ID NO:419).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP43 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP43 polypeptide (SEQ ID NO:420).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP44 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP44 polypeptide (SEQ ID NO:421).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP45 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP45 polypeptide (SEQ ID NO:422).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP46 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP46 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP47 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP47 polypeptide (SEQ ID NO:423).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP48 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP48 polypeptide (SEQ ID NO:424).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP49 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP49 polypeptide (SEQ ID NO:425).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP50 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP50 polypeptide (SEQ ID NO:426).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP51 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP51 polypeptide (SEQ ID NO:427).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP52 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP52 polypeptide (SEQ ID NO:428).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP53 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP53 polypeptide (SEQ ID NO:429).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP54 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP54 polypeptide (SEQ ID NO:430).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP55 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP55 polypeptide (SEQ ID NO:431).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP56 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP56 polypeptide (SEQ ID NO:432).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP57 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP57 polypeptide (SEQ ID NO:433).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP58 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP58 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP59 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP59 polypeptide (SEQ ID NO:434).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP60 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP60 polypeptide (SEQ ID NO:435).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP61 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP61 polypeptide (SEQ ID NO:436).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP62 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP62 polypeptide (SEQ ID NO:437).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP63 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP63 polypeptide (SEQ ID NO:438).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP64 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP64 polypeptide (SEQ ID NO:439).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP65 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP65 polypeptide (SEQ ID NO:440).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP66 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP66 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP67 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP67 polypeptide (SEQ ID NO:441).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP68 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP68 polypeptide (SEQ ID NO:442).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP69 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP69 polypeptide (SEQ ID NO:443).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP70 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP70 polypeptide (SEQ ID NO:444).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP71 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP71 polypeptide (SEQ ID NO:445).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP72 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP72 polypeptide (SEQ ID NO:446).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP73 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP73 polypeptide (SEQ ID NO:447).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP74 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP74 polypeptide (SEQ ID NO:448).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP75 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP75 polypeptide (SEQ ID NO:449).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP76 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP76 polypeptide (SEQ ID NO:450).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP77 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP77 polypeptide (SEQ ID NO:451).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP78 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP78 polypeptide (SEQ ID NO:452).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP79 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP79 polypeptide (SEQ ID NO:453).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP80 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP80 polypeptide (SEQ ID NO:454).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP81 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP81 polypeptide (SEQ ID NO:455).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP82 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP82 polypeptide (SEQ ID NO:456).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP83 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP83 polypeptide (SEQ ID NO:457).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP84 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP84 polypeptide (SEQ ID NO:458).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP85 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP85 polypeptide (SEQ ID NO:459).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP86 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP86 polypeptide (SEQ ID NO:460).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP87 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP87 polypeptide (SEQ ID NO:461).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP88 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP88 polypeptide (SEQ ID NO:462).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP89 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP89 polypeptide (SEQ ID NO:463).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP90 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP90 polypeptide (SEQ ID NO:464).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP91 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP91 polypeptide (SEQ ID NO:465).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP92 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP92 polypeptide (SEQ ID NO:466).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP93 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP93 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP94 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP94 polypeptide (SEQ ID NO:467).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP95 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP95 polypeptide (SEQ ID NO:468).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP96 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP96 polypeptide (SEQ ID NO:469).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP97 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP97 polypeptide (SEQ ID NO:470).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP98 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP98 polypeptide (SEQ ID NO:471).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP99 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP99 polypeptide (SEQ ID NO:472).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP100 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP100 polypeptide (SEQ ID NO:473).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP101 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP101 polypeptide (SEQ ID NO:474).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP102 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP102 polypeptide (SEQ ID NO:475).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP103 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP103 polypeptide (SEQ ID NO:476).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP104 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP104 polypeptide (SEQ ID NO:477).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP105 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP105 polypeptide (SEQ ID NO:478).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP106 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP106 polypeptide (SEQ ID NO:479).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP107 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP107 polypeptide (SEQ ID NO:480).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP108 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP108 polypeptide (SEQ ID NO:481).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP109 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP109 polypeptide (SEQ ID NO:482).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP110 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP110 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP111 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP111 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP112 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP112 polypeptide (SEQ ID NO:483).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP113 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP113 polypeptide (SEQ ID NO:484).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP114 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP114 polypeptide (SEQ ID NO:485).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP115 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP115 polypeptide (SEQ ID NO:486).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP116 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP116 polypeptide (SEQ ID NO:487).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP117 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP117 polypeptide (SEQ ID NO:488).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP118 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP118 polypeptide (SEQ ID NO:489).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP119 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP119 polypeptide (SEQ ID NO:490).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP120 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP120 polypeptide (SEQ ID NO:491).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP121 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP121 polypeptide (SEQ ID NO:492).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP122 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP122 polypeptide (SEQ ID NO:493).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP123 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP123 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP124 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP124 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP125 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP125 polypeptide (SEQ ID NO:494).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP126 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP126 polypeptide (SEQ ID NO:495).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP127 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP127 polypeptide (SEQ ID NO:496).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP128 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP128 polypeptide (SEQ ID NO:497).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP129 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP129 polypeptide (SEQ ID NO:498).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP130 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP130 polypeptide (SEQ ID NO:499).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP131 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP131 polypeptide (SEQ ID NO:500).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP132 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP132 polypeptide (SEQ ID NO:501).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP133 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP133 polypeptide (SEQ ID NO:502).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP134 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP134 polypeptide (SEQ ID NO:503).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP135 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP135 polypeptide (SEQ ID NO:504).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP136 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP136 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP137 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP137 polypeptide (SEQ ID NO:505).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP138 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP138 polypeptide (SEQ ID NO:506).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP139 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP139 polypeptide (SEQ ID NO:507).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP140 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP140 polypeptide (SEQ ID NO:508).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP141 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP141 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP142 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP142 polypeptide (SEQ ID NO:509).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP143 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP143 polypeptide (SEQ ID NO:510).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP144 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP144 polypeptide (SEQ ID NO:511).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP145 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP145 polypeptide (SEQ ID NO:512).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP146 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP146 polypeptide (SEQ ID NO:513).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP147 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP147 polypeptide (SEQ ID NO:514).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP148 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP148 polypeptide (SEQ ID NO:515).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP149 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP149 polypeptide (SEQ ID NO:516).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP150 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP150 polypeptide (SEQ ID NO:517).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP151 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP151 polypeptide (SEQ ID NO:518).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP152 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP152 polypeptide (SEQ ID NO:519).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP153 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP153 polypeptide (SEQ ID NO:520).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP154 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP154 polypeptide (SEQ ID NO:521).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP155 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP155 polypeptide (SEQ ID NO:522).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP156 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP156 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP157 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP157 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP158 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP158 polypeptide (SEQ ID NO:523).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP159 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP159 polypeptide (SEQ ID NO:524).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP160 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP160 polypeptide (SEQ ID NO:525).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP161 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP161 polypeptide (SEQ ID NO:526).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP162 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP162 polypeptide (SEQ ID NO:527).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP163 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP163 polypeptide (SEQ ID NO:528).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP164 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP164 polypeptide (SEQ ID NO:529).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP165 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP165 polypeptide (SEQ ID NO:530).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP166 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP166 polypeptide (SEQ ID NO:531).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP167 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP167 polypeptide (SEQ ID NO:532).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP168 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP168 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP169 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP169 polypeptide (SEQ ID NO:533).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP170 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP170 polypeptide (SEQ ID NO:534).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP171 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP171 polypeptide (SEQ ID NO:535).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP172 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP172 polypeptide (SEQ ID NO:536).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP173 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP173 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP174 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP174 polypeptide (SEQ ID NO:537).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP175 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP175 polypeptide (SEQ ID NO:538).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP176 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP176 polypeptide (SEQ ID NO:539).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP177 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP177 polypeptide (SEQ ID NO:540).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP178 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP178 polypeptide (SEQ ID NO:541).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP179 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP179 polypeptide (SEQ ID NO:542).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP180 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP180 polypeptide (SEQ ID NO:543).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP181 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP181 polypeptide (SEQ ID NO:544).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP182 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP182 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP183 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP183 polypeptide (SEQ ID NO:545).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP184 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP184 polypeptide (SEQ ID NO:546).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP185 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP185 polypeptide (SEQ ID NO:547).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP186 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP186 polypeptide (SEQ ID NO:548).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP187 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP187 polypeptide (SEQ ID NO:549).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP188 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP188 polypeptide (SEQ ID NO:550).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP189 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP189 polypeptide (SEQ ID NO:551).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP190 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP190 polypeptide (SEQ ID NO:552).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP191 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP191 polypeptide (SEQ ID NO:553).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP192 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP192 polypeptide (SEQ ID NO:554).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP193 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP193 polypeptide (SEQ ID NO:555).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP194 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP194 polypeptide (SEQ ID NO:556).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP195 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP195 polypeptide (SEQ ID NO:557).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP196 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP196 polypeptide (SEQ ID NO:558).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP197 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP197 polypeptide (SEQ ID NO:559).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP198 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP198 polypeptide (SEQ ID NO:560).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP199 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP199 polypeptide (SEQ ID NO:561).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP200 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP200 polypeptide (SEQ ID NO:562).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP201 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP201 polypeptide (SEQ ID NO:563).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP202 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP202 polypeptide (SEQ ID NO:564).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP203 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP203 polypeptide (SEQ ID NO:565).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP204 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP204 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP205 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP205 polypeptide (SEQ ID NO:566).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP206 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP206 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP207 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP207 polypeptide (SEQ ID NO:567).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP208 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP208 polypeptide (SEQ ID NO:568).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP209 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP209 polypeptide (SEQ ID NO:569).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP210 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP210 polypeptide (SEQ ID NO:570).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP211 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP211 polypeptide (SEQ ID NO:571).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP212 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP212 polypeptide (SEQ ID NO:572).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP213 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP213 polypeptide (SEQ ID NO:573).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP214 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP214 polypeptide (SEQ ID NO:574).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP215 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP215 polypeptide (SEQ ID NO:575).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP216 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP216 polypeptide (SEQ ID NO:576).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP217 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP217 polypeptide (SEQ ID NO:577).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP218 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP218 polypeptide (SEQ ID NO:578).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP219 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP219 polypeptide (SEQ ID NO:579).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP220 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP220 polypeptide (SEQ ID NO:580).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP221 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP221 polypeptide (SEQ ID NO:581).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP222 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP222 polypeptide (SEQ ID NO:582).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP223 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP223 polypeptide (SEQ ID NO:583).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP224 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP224 polypeptide (SEQ ID NO:584).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP225 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP225 polypeptide (SEQ ID NO:585).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP226 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP226 polypeptide (SEQ ID NO:586).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP227 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP227 polypeptide (SEQ ID NO:587).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP228 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP228 polypeptide (SEQ ID NO:588).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP229 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP229 polypeptide (SEQ ID NO:589).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP230 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP230 polypeptide (SEQ ID NO:590).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP231 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP231 polypeptide (SEQ ID NO:591).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP232 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP232 polypeptide (SEQ ID NO:592).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP233 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP233 polypeptide (SEQ ID NO:593).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP234 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP234 polypeptide (SEQ ID NO:594).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP235 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP235 polypeptide (SEQ ID NO:595).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP236 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP236 polypeptide (SEQ ID NO:596).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP237 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP237 polypeptide (SEQ ID NO:597).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP238 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP238 polypeptide (SEQ ID NO:598).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP239 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP239 polypeptide (SEQ ID NO:599).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP240 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP240 polypeptide (SEQ ID NO:600).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP241 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP241 polypeptide (SEQ ID NO:601).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP242 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP242 polypeptide (SEQ ID NO:602).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP243 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP243 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP244 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP244 polypeptide (SEQ ID NO:603).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP245 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP245 polypeptide (SEQ ID NO:604).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP246 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP246 polypeptide (SEQ ID NO:605).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP247 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP247 polypeptide (SEQ ID NO:606).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP248 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP248 polypeptide (SEQ ID NO:607).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP249 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP249 polypeptide (SEQ ID NO:608).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP250 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP250 polypeptide (SEQ ID NO:609).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP251 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP251 polypeptide (SEQ ID NO:610).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP252 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP252 polypeptide (SEQ ID NO:611).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP253 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP253 polypeptide (SEQ ID NO:612).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP254 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP254 polypeptide (SEQ ID NO:613).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP255 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP255 polypeptide (SEQ ID NO:614).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP256 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP256 polypeptide (SEQ ID NO:615).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP257 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP257 polypeptide (SEQ ID NO:616).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP258 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP258 polypeptide (SEQ ID NO:617).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP259 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP259 polypeptide (SEQ ID NO:618).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP260 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP260 polypeptide (SEQ ID NO:619).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP261 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP261 polypeptide (SEQ ID NO:620).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP262 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP262 polypeptide (SEQ ID NO:621).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP263 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP263 polypeptide (SEQ ID NO:622).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP264 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP264 polypeptide (SEQ ID NO:623).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP265 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP265 polypeptide (SEQ ID NO:624).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP266 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP266 polypeptide (SEQ ID NO:625).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP267 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP267 polypeptide (SEQ ID NO:626).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP268 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP268 polypeptide (SEQ ID NO:627).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP269 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP269 polypeptide (SEQ ID NO:628).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP270 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP270 polypeptide (SEQ ID NO:629).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP271 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP271 polypeptide (SEQ ID NO:630).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP272 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP272 polypeptide (SEQ ID NO:631).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP273 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP273 polypeptide (SEQ ID NO:632).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP274 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP274 polypeptide (SEQ ID NO:633).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP275 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP275 polypeptide (SEQ ID NO:634).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP276 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP276 polypeptide (SEQ ID NO:635).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP277 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP277 polypeptide (SEQ ID NO:636).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP278 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP278 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP279 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP279 polypeptide (SEQ ID NO:637).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP280 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP280 polypeptide (SEQ ID NO:638).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP281 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP281 polypeptide (SEQ ID NO:639).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP282 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP282 polypeptide (SEQ ID NO:640).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP283 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP283 polypeptide (SEQ ID NO:641).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP284 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP284 polypeptide (SEQ ID NO:642).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP285 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP285 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP286 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP286 polypeptide (SEQ ID NO:643).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP287 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP287 polypeptide (SEQ ID NO:644).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP288 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP288 polypeptide (SEQ ID NO:645).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP289 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP289 polypeptide (SEQ ID NO:646).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP290 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP290 polypeptide (SEQ ID NO:647).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP291 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP291 polypeptide (SEQ ID NO:648).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP292 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP292 polypeptide (SEQ ID NO:649).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP293 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP293 polypeptide (SEQ ID NO:650).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP294 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP294 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP295 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP295 polypeptide (SEQ ID NO:651).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP296 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP296 polypeptide (SEQ ID NO:652).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP297 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP297 polypeptide (SEQ ID NO:653).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP298 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP298 polypeptide (SEQ ID NO:654).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP299 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP299 polypeptide (SEQ ID NO:655).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP300 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP300 polypeptide (SEQ ID NO:656).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP301 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP301 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP302 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP302 polypeptide (SEQ ID NO:657).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP303 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP303 polypeptide (SEQ ID NO:658).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP304 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP304 polypeptide (SEQ ID NO:659).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP305 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP305 polypeptide (SEQ ID NO:660).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP306 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP306 polypeptide (SEQ ID NO:661).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP307 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP307 polypeptide (SEQ ID NO:662).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP308 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP308 polypeptide (SEQ ID NO:663).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP309 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP309 polypeptide (SEQ ID NO:664).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP310 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP310 polypeptide (SEQ ID NO:665).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP311 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP311 polypeptide (SEQ ID NO:666).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP312 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP312 polypeptide (SEQ ID NO:667).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP313 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP313 polypeptide (SEQ ID NO:668).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP314 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP314 polypeptide (SEQ ID NO:669).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP315 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP315 polypeptide (SEQ ID NO:670).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP316 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP316 polypeptide (SEQ ID NO:671).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP317 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP317 polypeptide (SEQ ID NO:672).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP318 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP318 polypeptide (SEQ ID NO:673).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP319 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP319 polypeptide (SEQ ID NO:674).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP320 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP320 polypeptide (SEQ ID NO:675).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP321 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP321 polypeptide (SEQ ID NO:676).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP322 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP322 polypeptide (SEQ ID NO:677).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP323 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP323 polypeptide (SEQ ID NO:678).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP324 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP324 polypeptide (SEQ ID NO:679).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP325 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP325 polypeptide (SEQ ID NO:680).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP326 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP326 polypeptide (SEQ ID NO:681).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP327 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP327 polypeptide (SEQ ID NO:682).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP328 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP328 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP329 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP329 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP330 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP330 polypeptide (SEQ ID NO:683).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP331 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP331 polypeptide (SEQ ID NO:684).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP332 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP332 polypeptide (SEQ ID NO:685).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP333 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP333 polypeptide (SEQ ID NO:686).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP34 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP34 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP335 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP335 polypeptide (SEQ ID NO:687).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP336 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP336 polypeptide (SEQ ID NO:688).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP337 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP337 polypeptide (SEQ ID NO:689).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP338 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP338 polypeptide (SEQ ID NO:690).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP339 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP339 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP340 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP340 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP341 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP341 polypeptide (SEQ ID NO:691).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP342 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP342 polypeptide (SEQ ID NO:692).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP343 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP343 polypeptide (SEQ ID NO:693).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP344 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP344 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP345 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP345 polypeptide (SEQ ID NO:694).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP346 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP346 polypeptide (SEQ ID NO:695).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP347 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP347 polypeptide (SEQ ID NO:696).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP348 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP348 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP349 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP349 polypeptide (SEQ ID NO:697).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP350 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP350 polypeptide (SEQ ID NO:698).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP351 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP351 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP352 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP352 polypeptide (SEQ ID NO:699).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP353 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP353 polypeptide (SEQ ID NO:700).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP354 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP354 polypeptide (SEQ ID NO:701).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP355 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP355 polypeptide (SEQ ID NO:702).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP356 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP356 polypeptide (SEQ ID NO:703).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP357 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP357 polypeptide (SEQ ID NO:704).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP358 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP358 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP359 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP359 polypeptide (SEQ ID NO:705).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP360 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP360 polypeptide (SEQ ID NO:706).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP361 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP361 polypeptide (SEQ ID NO:707).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP362 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP362 polypeptide (SEQ ID NO:708).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP363 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP363 polypeptide (SEQ ID NO:709).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP364 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP364 polypeptide (SEQ ID NO:710).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP365 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP365 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP366 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP366 polypeptide (SEQ ID NO:711).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP367 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP367 polypeptide (SEQ ID NO:712).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP368 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP368 polypeptide (SEQ ID NO:713).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP369 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP369 polypeptide (SEQ ID NO:714).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP370 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP370 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP371 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP371 polypeptide (SEQ ID NO:715).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP372 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP372 polypeptide (SEQ ID NO:716).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP373 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP373 polypeptide (SEQ ID NO:717).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP374 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP374 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP375 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP375 polypeptide (SEQ ID NO:718).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP376 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP376 polypeptide (SEQ ID NO:719).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP377 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP377 polypeptide (SEQ ID NO:720).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP378 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP378 polypeptide (SEQ ID NO:721).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP379 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP379 polypeptide (SEQ ID NO:722).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP380 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP380 polypeptide (SEQ ID NO:723).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP381 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP381 polypeptide (SEQ ID NO:724).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP382 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP382 polypeptide (SEQ ID NO:725).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP383 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP383 polypeptide (SEQ ID NO:726).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP384 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP384 polypeptide (SEQ ID NO:727).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP385 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP385 polypeptide (SEQ ID NO:728).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP386 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP386 polypeptide (SEQ ID NO:729).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP387 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP387 polypeptide (SEQ ID NO:730).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP388 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP388 polypeptide (SEQ ID NO:731).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP389 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP389 polypeptide (SEQ ID NO:732).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP390 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP390 polypeptide (SEQ ID NO:733).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP391 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP391 polypeptide (SEQ ID NO:734).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP392 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP392 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP393 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP393 polypeptide (SEQ ID NO:735).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP394 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP394 polypeptide (SEQ ID NO:736).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP395 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP395 polypeptide (SEQ ID NO:737).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP396 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP396 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP397 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP397 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP398 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP398 polypeptide (SEQ ID NO:738).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP399 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP399 polypeptide (SEQ ID NO:739).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP400 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP400 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP401 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP401 polypeptide (SEQ ID NO:740).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP402 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP402 polypeptide (SEQ ID NO:741).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP403 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP403 polypeptide (SEQ ID NO:742).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP404 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP404 polypeptide (SEQ ID NO:743).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP405 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP405 polypeptide (SEQ ID NO:744).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP406 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP406 polypeptide (SEQ ID NO:745).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP407 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP407 polypeptide (SEQ ID NO:746).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP408 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP408 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP409 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP409 polypeptide (SEQ ID NO:747).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP410 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP410 polypeptide (SEQ ID NO:748).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP411 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP411 polypeptide (SEQ ID NO:749).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP412 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP412 polypeptide (SEQ ID NO:750).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP413 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP413 polypeptide (SEQ ID NO:751).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP414 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP414 polypeptide (SEQ ID NO:752).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP415 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP415 polypeptide (SEQ ID NO:753).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP416 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP416 polypeptide (SEQ ID NO:754).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP417 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP417 polypeptide (SEQ ID NO:755).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP418 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP418 polypeptide (SEQ ID NO:756).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP419 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP419 polypeptide (SEQ ID NO:757).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP420 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP420 polypeptide (SEQ ID NO:758).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP421 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP421 polypeptide (SEQ ID NO:759).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP422 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP422 polypeptide (SEQ ID NO:760).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP423 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP423 polypeptide (SEQ ID NO:761).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP424 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP424 polypeptide (SEQ ID NO:762).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP425 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP425 polypeptide (SEQ ID NO:763).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP426 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP426 polypeptide (SEQ ID NO:764).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP427 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP427 polypeptide (SEQ ID NO:765).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP428 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP428 polypeptide (SEQ ID NO:766).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP429 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP429 polypeptide (SEQ ID NO:767).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP430 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP430 polypeptide (SEQ ID NO:768).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP431 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP431 polypeptide (SEQ ID NO:769).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP432 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP432 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP433 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP433 polypeptide (SEQ ID NO:770).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP434 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP434 polypeptide (SEQ ID NO:771).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP435 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP435 polypeptide (SEQ ID NO:772).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP436 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP436 polypeptide (SEQ ID NO:773).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP437 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP437 polypeptide (SEQ ID NO:774).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP438 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP438 polypeptide (SEQ ID NO:775).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP439 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP439 polypeptide (SEQ ID NO:776).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP440 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP440 polypeptide (SEQ ID NO:777).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP441 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP441 polypeptide (SEQ ID NO:778).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP442 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP442 polypeptide (SEQ ID NO:779).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP443 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP443 polypeptide (SEQ ID NO:780).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP444 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP444 polypeptide (SEQ ID NO:781).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP445 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP445 polypeptide (SEQ ID NO:782).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP446 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP446 polypeptide (SEQ ID NO:783).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP447 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP447 polypeptide (SEQ ID NO:784).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP448 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP448 polypeptide (SEQ ID NO:785).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP449 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP449 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP450 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP450 polypeptide (SEQ ID NO:786).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP451 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP451 polypeptide (SEQ ID NO:787).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP452 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP452 polypeptide (SEQ ID NO:788).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP453 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP453 polypeptide (SEQ ID NO:789).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP454 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP454 polypeptide (SEQ ID NO:790).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP455 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP455 polypeptide (SEQ ID NO:791).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP456 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP456 polypeptide (SEQ ID NO:792).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP457 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP457 polypeptide (SEQ ID NO:793).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP458 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP458 polypeptide (SEQ ID NO:794).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP459 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP459 polypeptide (SEQ ID NO:795).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP460 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP460 polypeptide (SEQ ID NO:796).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP461 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP461 polypeptide (SEQ ID NO:797).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP462 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP462 polypeptide (SEQ ID NO:798).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP463 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP463 polypeptide (SEQ ID NO:799).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP464 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP464 polypeptide (SEQ ID NO:800).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP465 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP465 polypeptide (SEQ ID NO:801).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP466 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP466 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP467 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP467 polypeptide (SEQ ID NO:802).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP468 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP468 polypeptide (SEQ ID NO:803).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP469 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP469 polypeptide (SEQ ID NO:804).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP470 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP470 polypeptide (SEQ ID NO:805).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP471 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP471 polypeptide (SEQ ID NO:806).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP472 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP472 polypeptide (SEQ ID NO:807).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP473 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP473 polypeptide (SEQ ID NO:808).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP474 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP474 polypeptide (SEQ ID NO:809).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP475 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP475 polypeptide (SEQ ID NO:810).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP476 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP476 polypeptide (SEQ ID NO:811).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP477 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP477 polypeptide (SEQ ID NO:812).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP478 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP478 polypeptide (SEQ ID NO:813).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP479 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP479 polypeptide (SEQ ID NO:814).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP480 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP480 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP481 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP481 polypeptide (SEQ ID NO:815).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP482 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP482 polypeptide (SEQ ID NO:816).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP483 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP483 polypeptide (SEQ ID NO:817).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP484 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP484 polypeptide (SEQ ID NO:818).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP485 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP485 polypeptide (SEQ ID NO:819).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP486 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP486 polypeptide (SEQ ID NO:820).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP487 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP487 polypeptide (SEQ ID NO:821).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP488 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP488 polypeptide (SEQ ID NO:822).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP489 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP489 polypeptide (SEQ ID NO:823).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP490 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP490 polypeptide (SEQ ID NO:824).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP491 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP491 polypeptide (SEQ ID NO:825).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP492 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP492 polypeptide (SEQ ID NO:826).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP493 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP493 polypeptide (SEQ ID NO:827).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP494 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP494 polypeptide (SEQ ID NO:828).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP495 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP495 polypeptide (SEQ ID NO:829).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP496 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP496 polypeptide (SEQ ID NO:830).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP497 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP497 polypeptide (SEQ ID NO:831).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP498 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP498 polypeptide (SEQ ID NO:832).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP499 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP499 polypeptide (SEQ ID NO:833).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP500 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP500 polypeptide (SEQ ID NO:834).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP501 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP501 polypeptide (SEQ ID NO:835).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP502 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP502 polypeptide (SEQ ID NO:836).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP503 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP503 polypeptide (SEQ ID NO:837).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP504 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP504 polypeptide (SEQ ID NO:838).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP505 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP505 polypeptide (SEQ ID NO:839).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP506 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP506 polypeptide (SEQ ID NO:840).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP507 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP507 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP508 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP508 polypeptide (SEQ ID NO:841).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP509 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP509 polypeptide (SEQ ID NO:842).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP510 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP510 polypeptide (SEQ ID NO:843).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP511 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP511 polypeptide (SEQ ID NO:844).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP512 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP512 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP513 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP513 polypeptide (SEQ ID NO:845).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP514 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP514 polypeptide (SEQ ID NO:846).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP515 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP515 polypeptide (SEQ ID NO:847).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP516 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP516 polypeptide (SEQ ID NO:848).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP517 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP517 polypeptide (SEQ ID NO:849).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP518 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP518 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP519 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP519 polypeptide (SEQ ID NO:850).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP520 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP520 polypeptide (SEQ ID NO:851).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP521 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP521 polypeptide (SEQ ID NO:852).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP522 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP22 polypeptide (SEQ ID NO:853).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP523 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP523 polypeptide (SEQ ID NO:854).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP524 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP524 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP525 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP525 polypeptide (SEQ ID NO:855).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP526 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP526 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP527 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP527 polypeptide (SEQ ID NO:856).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP528 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP528 polypeptide (SEQ ID NO:857).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP529 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP529 polypeptide (SEQ ID NO:858).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP530 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP530 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP531 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP531 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP532 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP532 polypeptide (SEQ ID NO:859).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP533 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP533 polypeptide (SEQ ID NO:860).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP534 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP534 polypeptide (SEQ ID NO:861).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP535 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP535 polypeptide (SEQ ID NO:862).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP536 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP536 polypeptide (SEQ ID NO:863).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP537 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP537 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP538 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP538 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP539 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP539 polypeptide (SEQ ID NO:864).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP540 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP540 polypeptide (SEQ ID NO:865).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP541 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP541 polypeptide (SEQ ID NO:866).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP542 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP542 polypeptide (SEQ ID NO:867).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP543 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP543 polypeptide (SEQ ID NO:868).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP544 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP544 polypeptide (SEQ ID NO:869).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP545 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP545 polypeptide (SEQ ID NO:870).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP546 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP546 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP547 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP547 polypeptide (SEQ ID NO:871).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP548 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP548 polypeptide (SEQ ID NO:872).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP549 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP549 polypeptide (SEQ ID NO:873).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP550 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP550 polypeptide (SEQ ID NO:874).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP551 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP551 polypeptide (SEQ ID NO:875).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP552 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP552 polypeptide (SEQ ID NO:876).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP553 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP553 polypeptide (SEQ ID NO:877).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP554 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP554 polypeptide (SEQ ID NO:878).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP555 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP555 polypeptide (SEQ ID NO:879).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP556 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP556 polypeptide (SEQ ID NO:880).

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP557 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP557 polypeptide.

In another aspect, the invention features a recombinant or substantially pure preparation of an HPP558 polypeptide. The invention also includes substantially pure nucleic acid encoding an HPP558 polypeptide.--

At page 50, line 28, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 29, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 32, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 34, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)--;
line 35, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "shown in"; and
line 37, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A".

At page 51, line 4, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 6, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 20, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 26, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 29, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";
line 30, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "shown in";

line 32, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 34, --(SEQ ID NOs:384-880)--after "Figures 1A-558A"; and

line 39, --(SEQ ID NOs:384-880)--after "Figures 1A-558A".

At page 52, line 2, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";

line 9, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 10, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 11, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 13, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";

line 15, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after sequence shown in" and insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A";

line 25, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)--; and

line 29, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in".

At page 53, line 3, replace "PCR, A Practical Approach" with --*PCR, A Practical Approach*--;

line 6, replace "sequences" with --sequences--;

line 20, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "in accordance with"; and

line 31, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "in accordance with".

At page 54, line 1, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in";

line 3, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "as shown in";

line 14, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "contained in"; and

line 22, insert --from-- after "genes".

At page 55, line 18, replace "elementand" with --element and-- after "promoter"; and lines 36 and 37, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after "exemplified in".

At page 56, line 12, insert --the-- before "skilled"; and line 25, insert --a-- before "purified".

At page 57, line 11, replace "-*B" with --- 558A (SEQ ID NOs:384-880)--; and line 15, insert --(SEQ ID NOs:384-880)--after "Figures 1A-558A".

At page 58, line 26, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)--after "shown in"; line 27, --(SEQ ID NOs:384-880)--after "Figures 1A-558A"; and line 33, delete "or a nucleic acid encoding modified *H. pylori* protein or portion thereof," after "portion thereof".

At page 62, line 7, replace "et al." with --et al.-- after "Caruthers"; line 14, move up "Suitable pharmaceutically" to line 13 after "administered."; and line 35, insert --Determination of candidate protein antigens for antibody and vaccine development--.

At page 63, line 2, replace "815," with --815:--after "Biophysica Acta"; and line 11, replace "560" with --559--after "Figure".

At page 64, line 1, replace "permissible" with --permissible--.

At page 65, line 10, replace "Mayers et al., 1985, *Science* 229:" with --Mayers et al., (1985) *Science* 229:--; line 29, replace "PNAS" with --*Proc. Natl. Acad. Sci. USA*-- after "(1992); line 30, replace "PNAS" with --*Proc. Natl. Acad. Sci. USA*-- and replace "Patents" with --Patent-- after "U.S.".

At page 66, line 7, replace "Cunningham and Wells (*Science* 244: 1081-1085, 1989)" with --Cunningham and Wells, (1989) *Science* 244: 1081-1085--; line 22, replace "(*DNA* 2: 183, 1983)" with --(1983) *DNA* 2: 183-- after "Adelman et al.,"; lines 33 and 34, replace "(*Proc. Natl. Acad. Sci. USA*, 75: 5765[1978])" with --(1978) *Proc. Natl. Acad. Sci. USA* 75: 5765-- after "Crea et al."; and line 38, replace "(*Gene*, 34:315[1985])" with --(1985) *Gene* 34: 315-- after "Wells et al.".

At page 68, line 33, replace "267" with --267-- after "Chem." and "EMBO J 12:" with -- *EMBO J.* 12-- after "Griffiths et al. (1993)"; line 34, replace "352" with --352-- after "Nature", and "PNAS 89:" with --*Proc. Natl. Acad. Sci. USA* 89--; and line 36, replace "EMBO 5," with --*EMBO J.* 5-- after "(1986)".

At page 69, line 3, replace "91, pp. 387" with --91: 387-- after "Vaccines", and "88," with --88-- after "Gene"; line 7, replace "55," with --55-- after "Microbiol"; line 11, replace "6," with --6-- after "Bio/Tech.>"; line 14, replace "174," with --174-- after "J. Bacteriol.>"; line 15, replace "9," with --9-- after "EMBO J."; line 20, replace "(Cull et al. (1992) *PNAS USA* 89:" with --(Cull et al., (1992) *Proc. Natl. Acad. Sci. USA* 89--; and line 36, replace "U.S.A. 89," with --*USA* 89--.

At page 70, line 5, replace "U.S.A. 87," with --*USA* 87--; line 16, replace "37(9)" with --37(9)-- after "Med. Chem."; and line 28, replace "37(9)" with --37(9)-- after "J. Med. Chem.".

At page 71, line 5, replace "204," with --204-- after "Anal. Biochem.".

At page 72, line 27, replace "Figure 559" with --Figures 1B - 383B (SEQ ID NOs:1-383)-- after " as shown in"; and

line 28, replace "Current Protocols in Molecular Biology" with
--*Current Protocols in Molecular Biology*--.

Please also substitute Figures 1B-383B contained in substitute pages 1-407, submitted herewith for original Figure 559. In Figures 1B-383B, nucleic acid sequences have been rearranged to match the order of the corresponding amino acid sequence in Figures 1A-558A. In addition, the nucleic acid sequences contained in Figures 1B-383B have been labeled HPP1B through HPP555B according to the corresponding polypeptide sequence.

In the Claims:

Please cancel claims 2-6.

Please add new claims 2-87.

2. (New) The preparation of claim 1, wherein said *H. pylori* polypeptide is selected from the group consisting of HPP1-54 (SEQ ID NOs:384-430) and HPP56-99 (SEQ ID NOs:432-472).

3. (New) The preparation of claim 1, wherein said *H. pylori* polypeptide is selected from the group consisting of HPP101-128 (SEQ ID NOs:474-497), HPP130-146 (SEQ ID NOs:499-513), HPP148-196 (SEQ ID NOs:515-558) and HPP198-199 (SEQ ID NOs:560-561).

4. (New) The preparation of claim 1, wherein said *H. pylori* polypeptide is selected from the group consisting of HPP200-260 (SEQ ID NOs:562-619) and HPP262-299 (SEQ ID NOs:621-655).

5. (New) The preparation of claim 1, wherein said *H. pylori* polypeptide is selected from the group consisting of HPP300-305 (SEQ ID NOs:656-660), HPP307-325 (SEQ ID NOs:662-680), HPP327-369 (SEQ ID NOs:682-714) and HPP 371-399 (SEQ ID NOs:715-739).

6. (New) The preparation of claim 1, wherein said *H. pylori* polypeptide is selected from the group consisting of HPP400-499 (SEQ ID NOs:740-833).

7. (New) The preparation of claim 1, wherein said *H. pylori* polypeptide is selected from the group consisting of HPP500-558 (SEQ ID NOs:834-880).

8. (New) A substantially pure nucleic acid encoding an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

9. (New) The substantially pure nucleic acid of claim 8, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP1 (SEQ ID NO:384), HPP5-8 (SEQ ID NOs:386-389), HPP10-19 (SEQ ID NOs:391-400), HPP21-25 (SEQ ID NOs:403-406), HPP27 (SEQ ID NO:408), HPP30-31 (SEQ ID NO:411-412), HPP36-40 (SEQ ID NOs:414-418), HPP42-45 (SEQ ID NOs:419-422), HPP47-54 (SEQ ID NOs:423-430), HPP56-57 (SEQ ID NOs:432-433), HPP59 (SEQ ID NO:434), HPP61-65 (SEQ ID NOs:436-440), HPP67 (SEQ ID NO:441), HPP69-70 (SEQ ID NOs:443-444), HPP72-74 (SEQ ID NOs:446-448), HPP76-88 (SEQ ID NOs:450-462), HPP91-92 (SEQ ID NOs:465-466), HPP95-96 (SEQ ID NOs:468-469) and HPP98-99 (SEQ ID NOs:471-472).

10. (New) The substantially pure nucleic acid of claim 8, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP100 (SEQ ID NO:473), HPP102 (SEQ ID NO:475), HPP105-106 (SEQ ID NO:478-479), HPP108-109 (SEQ ID NOs: 481-482), HPP112-113 (SEQ ID NOs:483-484), HPP115 (SEQ ID NO:486), HPP117-122 (SEQ ID NOs:488-493), HPP125-132 (SEQ ID NOs:494-501), HPP134-135 (SEQ ID NOs:503-504), HPP137-138 (SEQ ID NOs:505-506), HPP142-143 (SEQ ID NOs:509-510), HPP145-147 (SEQ ID NOs:512-514), HPP149 (SEQ ID NO:516), HPP151-153 (SEQ ID NOs:518-520), HPP155 (SEQ ID NO:522), HPP158-160 (SEQ ID NOs: 523-525), HPP162-167 (SEQ ID NOs:527-532), HPP169 (SEQ ID NO:533), HPP171-172 (SEQ ID NOs:535-536), HPP174 (SEQ ID NO:537), HPP176-177 (SEQ ID NOs:539-540), HPP179-181 (SEQ ID NOs:542-544), HPP184-186 (SEQ ID NOs:546-548), HPP188 (SEQ ID NO:550), HPP191-194 (SEQ ID NOs:553-556), HPP-196 (SEQ ID NO:558) and HPP198 (SEQ ID NO:560).

11. (New) The substantially pure nucleic acid of claim 8, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP200-203 (SEQ ID NOs:562-565), HPP205 (SEQ ID NO:566), HPP207-208 (SEQ ID NOs:567-568), HPP210 (SEQ ID NO:570), HPP212-219 (SEQ ID NOs:572-579), HPP221-223 (SEQ ID NOs:581-583), HPP225-233 (SEQ ID NOs:585-593), HPP236-242 (SEQ ID NOs:596-602), HPP244-255 (SEQ ID NOs:603-614), HPP258-264 (SEQ ID NOs:617-623), HPP266 (SEQ ID NO:625), HPP268 (SEQ ID NO:627), HPP270-272 (SEQ ID NOs:629-631), HPP274 (SEQ ID NO:633), HPP276-277 (SEQ ID NOs:635-636), HPP280-282 (SEQ ID NOs:638-640), HPP284 (SEQ ID NO:642), HPP286 (SEQ ID NO:643), HPP290 (SEQ ID NO:647), HPP292-293 (SEQ ID NOs:649-650), HPP295 (SEQ ID NO:651) and HPP297-299 (SEQ ID NOs:653-655).

12. (New) The substantially pure nucleic acid of claim 8, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP300 (SEQ ID NO:656), HPP302-306 (SEQ ID NOs:657-661), HPP308-315 (SEQ ID NOs:663-670), HPP318-319 (SEQ ID NOs:673-674), HPP321 (SEQ ID NO:676), HPP323-327 (SEQ ID NOs:678-682), HPP330 (SEQ ID NO:683), HPP335-338 (SEQ ID NOs:687-690), HPP341-342 (SEQ ID NOs:691-692), HPP345-347 (SEQ ID NOs:694-696), HPP349-350 (SEQ ID NOs:697-698), HPP352-355 (SEQ ID NOs:699-702), HPP359-362 (SEQ ID NOs:705-708), HPP367-369 (SEQ ID NOs:712-714), HPP372-373 (SEQ ID NOs:716-717), HPP375-379 (SEQ ID NOs:718-722), HPP382-387 (SEQ ID NOs:725-730), HPP389-390 (SEQ ID NOs:732-733), HPP393-395 (SEQ ID NOs:735-737) and HPP398-399 (SEQ ID NOs:738-739).

13. (New) The substantially pure nucleic acid of claim 8, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP401-405 (SEQ ID NOs:740-744), HPP407 (SEQ ID NO:746), HPP409-414 (SEQ ID NOs:747-752), HPP417-419 (SEQ ID NOs:755-757), HPP421 (SEQ ID NO:759), HPP423-425 (SEQ ID NOs:761-763), HPP429-431 (SEQ ID NOs:767-769), HPP433-436 (SEQ ID NOs:770-773), HPP438 (SEQ ID NO:775), HPP440 (SEQ ID NO:777), HPP442-447 (SEQ ID NOs:779-784), HPP450-451 (SEQ ID NOs:786-787), HPP453-456 (SEQ ID NOs:789-792), HPP458 (SEQ ID NO:794), HPP460 (SEQ ID NO:796), HPP462-465 (SEQ ID NOs:798-801), HPP467-470 (SEQ ID NOs:802-805), HPP472-476 (SEQ ID NOs:807-811), HPP478-479 (SEQ ID NOs:813-814), HPP481-485 (SEQ ID NOs:815-819),

HPP487-488 (SEQ ID NOs:821-822), HPP490-492 (SEQ ID NOs:824-826) and HPP494-498 (SEQ ID NOs:828-832).

14. (New) The substantially pure nucleic acid of claim 8, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP501-506 (SEQ ID NOs:835-845), HPP508 (SEQ ID NO:841), HPP510-511 (SEQ ID NOs:843-844), HPP513-517 (SEQ ID NOs:845-849), HPP519-520 (SEQ ID NOs:850-851), HPP522 (SEQ ID NO:853), HPP525 (SEQ ID NO:855), HPP527-528 (SEQ ID NOs:856-857), HPP532-535 (SEQ ID NOs:859-862), HPP541 (SEQ ID NO:866), HPP543-545 (SEQ ID NOs:868-870), HPP547 (SEQ ID NO:871), HPP549-552 (SEQ ID NOs:873-876) and HPP555 (SEQ ID NO:879).

15. (New) A recombinant or substantially pure preparation of a polypeptide having at least 60% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

16. (New) The preparation of claim 15, wherein said polypeptide has at least 80% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

17. (New) The preparation of claim 15, wherein said polypeptide has at least 90% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

18. (New) The preparation of claim 15, wherein said polypeptide has at least 95% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

19. (New) The preparation of claim 15, wherein said polypeptide has at least 98% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

20. (New) The preparation of claim 15, wherein said polypeptide has at least 99% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

21. (New) A substantially pure nucleic acid encoding a polypeptide having at least 60% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

22. (New) The substantially pure nucleic acid of claim 21, wherein said encoded polypeptide has at least 70% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

23. (New) The substantially pure nucleic acid of claim 21, wherein said encoded polypeptide has at least 80% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

24. (New) The substantially pure nucleic acid of claim 21, wherein said encoded polypeptide has at least 90% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

25. (New) The substantially pure nucleic acid of claim 21, wherein said encoded polypeptide has at least 95% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

26. (New) The substantially pure nucleic acid of claim 21, wherein said encoded polypeptide has at least 98% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

27. (New) The substantially pure nucleic acid of claim 21, wherein said encoded polypeptide has at least 99% homology with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

28. (New) A vaccine composition for prevention or treatment of *H. pylori* infection comprising an effective amount of an *H. pylori* polypeptide or a fragment thereof selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880), and a pharmaceutically acceptable carrier.

29. (New) The vaccine composition of claim 28, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP1-54 (SEQ ID NOs:384-430) and HPP56-99 (SEQ ID NOs:432-472).

30. (New) The vaccine composition of claim 28, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP101-128 (SEQ ID NOs:474-497), HPP130-146 (SEQ ID NOs:499-513), HPP148-196 (SEQ ID NOs:515-558) and HPP198-199 (SEQ ID NOs:560-561).

31. (New) The vaccine composition of claim 28, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP200-260 (SEQ ID NOs:562-619) and HPP262-299 (SEQ ID NOs:621-655).

32. (New) The vaccine composition of claim 28, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP300-305 (SEQ ID NOs:656-660), HPP307-325 (SEQ ID NOs:662-680), HPP327-369 (SEQ ID NOs:682-714), and HPP371-399 (SEQ ID NOs:715-739).

33. (New) The vaccine composition of claim 28, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP400-499 (SEQ ID NOs:740-833).

34. (New) The vaccine composition of claim 28, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP500-558 (SEQ ID NOs:834-880).

35. (New) A method of treating a subject for *H. pylori* infection comprising administering to a subject a vaccine composition comprising an effective amount of an *H. pylori* polypeptide or a fragment thereof selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880), and a pharmaceutically acceptable carrier, such that treatment of *H. pylori* infection occurs.

36. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP1-54 (SEQ ID NOs:384-430) and HPP56-99 (SEQ ID NOs:432-472).

37. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP101-128 (SEQ ID NOs:474-497), HPP130-146 (SEQ ID NOs:499-513), HPP148-196 (SEQ ID NOs:515-558), and HPP198-199 (SEQ ID NOs:560-561).

38. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP200-260 (SEQ ID NOs:562-619) and HPP262-299 (SEQ ID NOs:621-655).

39. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP300-305 (SEQ ID NOs:656-660), HPP307-325 (SEQ ID NOs:662-680), HPP327-369 (SEQ ID NOs:682-714), and HPP371-399 (SEQ ID NOs:715-739).

40. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP400-499 (SEQ ID NOs:740-833).

41. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is selected from the group consisting of HPP500-558 (SEQ ID NOs:834-880).

42. (New) The method of claims 35 through 41 wherein the treatment is a prophylactic treatment.

43. (New) The method of claims 35 through 41 wherein the treatment is a therapeutic treatment.

44. (New) The method of claim 35, wherein said *H. pylori* polypeptide or fragment thereof is administered in a presence of an adjuvant.

45. (New) A method of evaluating a compound for the ability to bind an *H. pylori* polypeptide comprising: contacting said compound with an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880) and determining if said compound binds said *H. pylori* polypeptide.

46. (New) The method of claim 45, wherein said compound is an activator of the bacterial life cycle.

47. (New) The method of claim 45, wherein said compound is an inhibitor of the bacterial life cycle.

48. (New) The method of claim 45, wherein said method is performed *in vitro*.

49. (New) The method of claim 45, wherein said method is performed *in vivo*.

50. (New) A method of evaluating a compound for the ability to bind an *H. pylori* nucleic acid comprising: contacting said compound with an *H. pylori* nucleic acid selected from the group shown in Fig. 1B-383B (SEQ ID NOs:1-383) and determining if said compound binds said *H. pylori* nucleic acid.

51. (New) The method of claim 50, wherein said compound is an activator of the bacterial life cycle.

52. (New) The method of claim 50, wherein said compound is an inhibitor of the bacterial life cycle.

53. (New) The method of claim 50, wherein said method is performed *in vitro*.

54. (New) The method of claim 50, wherein said method is performed *in vivo*.

55. (New) A method of generating a vaccine for immunizing a subject against *H. pylori* infection comprising: immunizing said subject with an *H. pylori* polypeptide or a fragment thereof selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880), and a therapeutically acceptable carrier.

56. (New) The method of claim 55, wherein said *H. pylori* polypeptide or fragment thereof is a modified immunogenic *H. pylori* polypeptide.

57. (New) A method of detecting the presence of a *Helicobacter* species in a sample comprising:

contacting said sample with a nucleic acid encoding an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880);

hybridizing said sample to said nucleic acid;
said hybridization being indicative of the presence of said *Helicobacter* species in said sample.

58. (New) The method of claim 57, wherein said *Helicobacter* species is *H. pylori*.

59. (New) The method of claim 57, wherein said nucleic acid is 20 or more nucleotides in length.

60. (New) A method of detecting the presence of a *Helicobacter* species in a sample comprising:

contacting said sample with a nucleic acid comprising a nucleotide sequence of genomic DNA 5' to genomic DNA which encodes a sequence selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880);

hybridizing said sample to said nucleic acid;
said hybridization being indicative of the presence of said *Helicobacter* species in said sample.

61. (New) The method of claim 60, wherein said *Helicobacter* species is *H. pylori*.

62. (New) The method of claim 60, wherein said nucleic acid is 20 or more nucleotides in length.

63. (New) A method of detecting *H. pylori* antibodies in a sample comprising:
contacting said sample with an *H. pylori* antigen selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

64. (New) The method of claim 63, wherein said sample is from an individual infected with *H. pylori*.

65. (New) A method of inhibiting expression of a gene from a *Helicobacter* species comprising: administering to said species an *H. pylori* antisense nucleic acid selected from the group shown in Fig. 1B-383B (SEQ ID NOs:1-383).

66. (New) The method of claim 65, wherein said *Helicobacter* species is *H. pylori*.

67. (New) The method of claim 65, wherein said antisense nucleic acid is administered in a carrier.

68. The method of claim 67, wherein said carrier is a liposome or a bacteriophage.

69. (New) The method of claim 65, wherein said antisense nucleic acid is 20 or more nucleotides in length.

70. (New) The method of claim 65, wherein said antisense nucleic acid is capable of binding to *Helicobacter* nucleic acid or mRNA.

71. (New) A method of making a fragment or analog of an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880) comprising: altering the sequence of said *H. pylori* polypeptide, and testing said altered polypeptide for the desired activity.

72. (New) The method of claim 71, wherein said desired activity is ability to mediate attachment of an *H. pylori* to a cell.

73. (New) The method of claim 71, wherein said *H. pylori* polypeptide sequence is altered by a substitution or a deletion of one or more residues.

74. (New) A substantially pure nucleic acid from a naturally occurring *H. pylori* which hybridizes under stringent conditions to a nucleic acid sequence which encodes an *H. pylori* polypeptide selected from the group consisting of HPP1 through HPP558 (SEQ ID NOs:384-880).

75. (New) The substantially pure nucleic acid of claim 74, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP1 (SEQ ID NO:384), HPP5-8 (SEQ ID NOs:386-389), HPP10-19 (SEQ ID NOs:391-400), HPP21-25 (SEQ ID NOs:402-406), HPP27 (SEQ ID NO:408), HPP30-31 (SEQ ID NOs:411-412), HPP36-40 (SEQ ID NOs:414-18), HPP42-45 (SEQ ID NOs:419-22), HPP47-54 (SEQ ID NOs:423-430), HPP56-57 (SEQ ID NOs:432-433), HPP59 (SEQ ID NO:434), HPP61-65 (SEQ ID NOs:436-440), HPP67 (SEQ ID NO:441), HPP69-70 (SEQ ID NOs:443-444), HPP72-74 (SEQ ID NOs:446-448), HPP76-88 (SEQ ID NOs:450-462), HPP91-92 (SEQ ID NOs:465-466), HPP95-96 (SEQ ID NOs:468-469) and HPP98-99 (SEQ ID NOs:471-472).

76. (New) The substantially pure nucleic acid of claim 74, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP100 (SEQ ID NO:473), HPP102 (SEQ ID NO:475), HPP105-106 (SEQ ID NO:478-479), HPP108-109 (SEQ ID NOs: 481-482), HPP112-113 (SEQ ID NOs:483-484), HPP115 (SEQ ID NO:486), HPP117-122 (SEQ ID NOs:488-493), HPP125-132 (SEQ ID NOs:494-501), HPP134-135 (SEQ ID NOs:503-504), HPP137-138 (SEQ ID NOs:505-506), HPP142-143 (SEQ ID NOs:509-510), HPP145-147 (SEQ ID NOs:512-514), HPP149 (SEQ ID NO:516), HPP151-153 (SEQ ID NOs:518-520), HPP155 (SEQ ID NO:522), HPP158-160 (SEQ ID NOs: 523-525), HPP162-167 (SEQ ID NOs:527-532), HPP169 (SEQ ID NO:533), HPP171-172 (SEQ ID NOs:535-536), HPP174 (SEQ ID NO:537), HPP176-177 (SEQ ID NOs:539-540), HPP179-181 (SEQ ID NOs:542-544), HPP184-186 (SEQ ID NO:546-548), HPP188 (SEQ ID NO:550), HPP191-194 (SEQ ID NOs:553-556), HPP-196 (SEQ ID NO:558) and HPP198 (SEQ ID NO:560).

77. (New) The substantially pure nucleic acid of claim 74, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP200-203 (SEQ ID NOs:562-565), HPP205 (SEQ ID NO:566), HPP207-208 (SEQ ID NOs:567-568), HPP210 (SEQ ID NO:570), HPP212-219 (SEQ ID NOs:572-579), HPP221-223 (SEQ ID NOs:581-583), HPP225-233 (SEQ ID NOs:585-593), HPP236-242 (SEQ ID NOs:596-602), HPP244-255 (SEQ ID NOs:603-614), HPP258-264 (SEQ ID NOs:617-623), HPP266 (SEQ ID NO:625), HPP268 (SEQ ID NO:627), HPP270-272 (SEQ ID NOs:629-631), HPP274 (SEQ ID NO:633), HPP276-277 (SEQ ID NOs:635-636), HPP280-282 (SEQ ID NOs:638-640), HPP284 (SEQ ID NO:642), HPP286 (SEQ ID NO:643), HPP290 (SEQ ID NO:647), HPP292-293 (SEQ ID NOs:649-650), HPP295 (SEQ ID NO:651) and HPP297-299 (SEQ ID NOs:653-655).

78. (New) The substantially pure nucleic acid of claim 74, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP300 (SEQ ID NO:656), HPP302-306 (SEQ ID NOs:657-661), HPP308-315 (SEQ ID NOs:663-670), HPP318-319 (SEQ ID NOs:673-674), HPP321 (SEQ ID NO:676), HPP323-327 (SEQ ID NOs:678-682), HPP330 (SEQ ID NO:683), HPP335-338 (SEQ ID NOs:687-690), HPP341-342 (SEQ ID NOs:691-692), HPP345-347 (SEQ ID NOs:694-696), HPP349-350 (SEQ ID NOs:697-698), HPP352-355 (SEQ ID NOs:699-702), HPP359-362 (SEQ ID NOs:705-708), HPP367-369 (SEQ ID NOs:712-714), HPP372-373 (SEQ ID NOs:716-717), HPP375-379 (SEQ ID NOs:718-722), HPP382-387 (SEQ ID NOs:725-730), HPP389-390 (SEQ ID NOs:732-733), HPP393-395 (SEQ ID NOs:735-737) and HPP398-399 (SEQ ID NOs:738-739).

79. (New) The substantially pure nucleic acid of claim 74, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP401-405 (SEQ ID NOs:740-744), HPP407 (SEQ ID NO:746), HPP409-414 (SEQ ID NOs:747-752), HPP417-419 (SEQ ID NOs:755-757), HPP421 (SEQ ID NO:759), HPP423-425 (SEQ ID NOs:761-763), HPP429-431 (SEQ ID NOs:767-769), HPP433-436 (SEQ ID NOs:770-773), HPP438 (SEQ ID NO:775), HPP440 (SEQ ID NO:777), HPP442-447 (SEQ ID NOs:779-784), HPP450-451 (SEQ ID NOs:786-787), HPP453-456 (SEQ ID NOs:789-792), HPP458 (SEQ ID NO:794), HPP460 (SEQ ID NO:796), HPP462-465 (SEQ ID NOs:798-801), HPP467-470 (SEQ ID NOs:802-805), HPP472-476 (SEQ ID NOs:807-811), HPP478-479 (SEQ ID NOs:813-814), HPP481-485 (SEQ ID NOs:815-819), HPP487-488 (SEQ ID NOs:821-822), HPP490-492 (SEQ ID NOs:824-826) and HPP494-498 (SEQ ID NOs:828-832).

80. (New) The substantially pure nucleic acid of claim 74, wherein said encoded *H. pylori* polypeptide is selected from the group consisting of HPP501-506 (SEQ ID NOs:835-840), HPP508 (SEQ ID NO:841), HPP510-511 (SEQ ID NOs:843-844), HPP513-517 (SEQ ID NOs:845-849), HPP519-520 (SEQ ID NOs:850-851), HPP522 (SEQ ID NO:853), HPP525 (SEQ ID NO:855), HPP527-528 (SEQ ID NOs:856-857), HPP532-535 (SEQ ID NOs:859-862), HPP541 (SEQ ID NO:866), HPP543-545 (SEQ ID NOs:868-870), HPP547 (SEQ ID NO:871), HPP549-552 (SEQ ID NOs:873-876) and HPP555 (SEQ ID NO:879).

81. (New) A substantially pure nucleic acid encoding an *H. pylori* polypeptide, said nucleic acid comprising a nucleotide sequence shown in Figures 1B-383B (SEQ ID NOs:1-383).

82. (New) The substantially pure nucleic acid of claim 81, wherein said nucleotide sequence is selected from the group consisting of HPP1B (SEQ ID NO:1), HPP5-8B (SEQ ID NOs:2-5), HPP10-19B (SEQ ID NOs:6-15), HPP21-25B (SEQ ID NOs:16-20), HPP27B (SEQ ID NO:21), HPP30-31B (SEQ ID NOs:22-23), HPP36-40B (SEQ ID NOs:24-28), HPP42-45B (SEQ ID NOs:29-32), HPP47-54B (SEQ ID NOs:33-40), HPP56-57B (SEQ ID NOs:41-42), HPP59B (SEQ ID NO:43), HPP61-65B (SEQ ID NOs:44-48), HPP67B (SEQ ID NO:49), HPP69-70B (SEQ ID NOs:50-51), HPP72-74B (SEQ ID NOs:52-54), HPP76-88B (SEQ ID NOs:55-67), HPP91-92B (SEQ ID NOs:68-69), HPP95-96B (SEQ ID NOs:70-71) and HPP98-99B (SEQ ID NOs:72-73).

83. (New) The substantially pure nucleic acid of claim 81, wherein said nucleotide sequence is selected from the group consisting of HPP100B (SEQ ID NO:74), HPP102B (SEQ ID NO:75), HPP105-106B (SEQ ID NO:76-77), HPP108-109B (SEQ ID NOs:78-79), HPP112-113B (SEQ ID NOs:80-81), HPP115B (SEQ ID NO:82), HPP117-122B (SEQ ID NOs:83-88), HPP125-132B (SEQ ID NOs:89-96), HPP134-135B (SEQ ID NOs:97-98), HPP137-138B (SEQ ID NOs:99-100), HPP142-143B (SEQ ID NOs:101-102), HPP145-147B (SEQ ID NOs:103-105), HPP149B (SEQ ID NO:106), HPP151-153B (SEQ ID NOs:107-109), HPP155B (SEQ ID NO:110), HPP158-160B (SEQ ID NOs:111-113), HPP162-167B (SEQ ID NOs:114-119), HPP169B (SEQ ID NO:120), HPP171-172B (SEQ ID NOs:121-122), HPP174B (SEQ ID NO:123), HPP176-177B (SEQ ID NOs:124-125), HPP179-181B (SEQ ID NOs:126-128), HPP184-186B (SEQ ID NO:129-131), HPP188B (SEQ ID NO:132), HPP191-194B (SEQ ID NOs:133-136), HPP-196B (SEQ ID NO:137) and HPP198B (SEQ ID NO:138).

84. (New) The substantially pure nucleic acid of claim 81, wherein said nucleotide sequence is selected from the group consisting of HPP200-203B (SEQ ID NOs:139-142), HPP205B (SEQ ID NO:143), HPP207-208B (SEQ ID NOs:144-145), HPP210B (SEQ ID NO:146), HPP212-219B (SEQ ID NOs:147-154), HPP221-223B (SEQ ID NOs:155-157), HPP225-233B (SEQ ID NOs:158-166), HPP236-242B (SEQ ID NOs:167-173), HPP244-255B (SEQ ID NOs:174-185), HPP258-264B (SEQ ID NOs:186-192), HPP266B (SEQ ID NO:193), HPP268B (SEQ ID NO:194), HPP270-272B (SEQ ID NOs:195-197), HPP274B (SEQ ID NO:198), HPP276-277B (SEQ ID

NOs:199-200), HPP280-282B (SEQ ID NOs:201-203), HPP284B (SEQ ID NO:204), HPP286B (SEQ ID NO:205), HPP290B (SEQ ID NO:206), HPP292-293B (SEQ ID NOs:207-208), HPP295B (SEQ ID NO:209) and HPP297-299B (SEQ ID NOs:210-212).

85. (New) The substantially pure nucleic acid of claim 81, wherein said nucleotide sequence is selected from the group consisting of HPP300B (SEQ ID NO:213), HPP302-306B (SEQ ID NOs:214-218), HPP308-315B (SEQ ID NOs:219-226), HPP318-319B (SEQ ID NOs:227-228), HPP321B (SEQ ID NO:229), HPP323-327B (SEQ ID NOs:230-234), HPP330B (SEQ ID NO:235), HPP335-338B (SEQ ID NOs:236-239), HPP341-342B (SEQ ID NOs:240-241), HPP345-347B (SEQ ID NOs:242-244), HPP349-350B (SEQ ID NOs:245-246), HPP352-355B (SEQ ID NOs:247-250), HPP359-362B (SEQ ID NOs:251-254), HPP367-369B (SEQ ID NOs:255-257), HPP372-373B (SEQ ID NOs:258-259), HPP375-379B (SEQ ID NOs:260-264), HPP382-387B (SEQ ID NOs:265-270), HPP389-390B (SEQ ID NOs:271-272), HPP393-395B (SEQ ID NOs:273-275) and HPP398-399B (SEQ ID NOs:276-277).

86. (New) The substantially pure nucleic acid of claim 81, wherein said nucleotide sequence is selected from the group consisting of HPP401-405B (SEQ ID NOs:278-282), HPP407B (SEQ ID NO:283), HPP409-414B (SEQ ID NOs:284-289), HPP417-419B (SEQ ID NOs:290-292), HPP421B (SEQ ID NO:293), HPP423-425B (SEQ ID NOs:294-296), HPP429-431B (SEQ ID NOs:297-299), HPP433-436B (SEQ ID NOs:300-303), HPP438B (SEQ ID NO:304), HPP440B (SEQ ID NO:305), HPP442-447B (SEQ ID NOs:306-311), HPP450-451B (SEQ ID NOs:312-313), HPP453-456B (SEQ ID NOs:314-317), HPP458B (SEQ ID NO:318), HPP460B (SEQ ID NO:319), HPP462-465B (SEQ ID NOs:320-323), HPP467-470B (SEQ ID NOs:324-327), HPP472-476B (SEQ ID NOs:328-332), HPP478-479B (SEQ ID NOs:333-334), HPP481-485B (SEQ ID NOs:335-339), HPP487-488B (SEQ ID NOs:340-341), HPP490-492B (SEQ ID NOs:342-344) and HPP494-498B (SEQ ID NOs:345-349).

87. (New) The substantially pure nucleic acid of claim 81, wherein said nucleotide sequence is selected from the group consisting of HPP501-506B (SEQ ID NOs:350-355), HPP508B (SEQ ID NO:356), HPP510-511B (SEQ ID NOs:357-358), HPP513-517B (SEQ ID NOs:359-363), HPP519-520B (SEQ ID NOs:364-365), HPP522B (SEQ ID NO:366), HPP525B (SEQ ID NO:367), HPP527-528B (SEQ ID NOs:368-369), HPP532-535B (SEQ ID NOs:370-373), HPP541B (SEQ ID NO:374),